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Bulletin

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A RETROSPECT AND A RECORD: AN EARNEST OF THE FUTURE

PRESIDENTIAL ADDRESS *

G. E. DE SCHWEINITZ, M.D., LL.D.
President of the American Medical Association
PHILADELPHIA

One year ago, the view in which our House of Delegates regards the Section on Ophthalmology was made evident in the recognition of its long service, steadfast work and scientific output by the election of a representative of this membership to the chief executive office of the American Medical Association. It is furthermore a recognition of this section's endeavor, although fully alive to the need of its special development, not to cast its lines in narrow rows, but to increase its range of action, knowledge and influence in cooperation and in association with the great system of medicine of which it forms an important integral part.

It is altogether fitting and proper that a declaration of high appreciation of this act of the House of Delegates should be recorded, that in representative capacity I should make formal avowal of the grave responsibilities involved, that I should pledge the best service in my capacity and an earnest study of the insistent problems with which our profession is surrounded, seeking the advice of our constituency, courting consultation and conference, endeavoring to deserve support, and expressing the hope that that confidence has not been misplaced.

THE AMERICAN MEDICAL ASSOCIATION

Seventy-five years ago, the American Medical Association was formed, with Nathaniel Chapman as its first President, the organization, however, accomplished largely through the efforts of Dr. Nathan Smith Davis. Rightfully we acclaim him father of this great congress of physicians.[1] Founded for the specific purpose of advancing the standards of medical education, a purpose which from that day to this has been translated into values of which the profession we represent and the people we serve are the fortunate beneficiaries, this Association twenty-one years ago underwent an important reorganization with respect to membership and with reference to the constitution, whereby the House of Delegates was formed, which since that time has been responsible for the policies of the Association.

This reorganized body, as has been well said, opens its door to all qualified licensed physicians who honorably practice scientific medicine and who, in the words of the hippocratic oath, "into whatever houses they enter, will go into them for the benefit of the sick, and will abstain from every voluntary act of mischief and corruption." Through these doorways have passed well nigh 85,000 physicians, who constitute the fellowship and membership of this Association. Let no qualified man avoid the state of being a Fellow. It is his privilege, it is his duty, it should be his ambition to join in our concerted effort on behalf of the world's greatest profession—the science and art of medicine and surgery.

Today the American Medical Association celebrates in organization its diamond jubilee; in reorganization, its majority. It is an occasion for rejoicing, and also an occasion on which to gather inspiration from the achievements of those American physicians who have preceded us for our share of work in this profession to which we have the honor to belong—inspiration, too, from the accomplishments of those who are contemporaries, and from those who are of younger years, in their efforts to carry on.

Did time permit, we might with profit linger on the period when the original thoughts of Benjamin Rush "swept the chords of the gamut" of the medical knowledge of the day; when through the efforts of John Morgan and William Shippen, the first school of medicine was founded in this land; and when the days were evil and yellow fever took its heavy toll of victims, one hundred years before its conquest, in largest measure, was to become an American achievement.

EARLY ACHIEVEMENTS IN AMERICAN MEDICINE

It is proper, however, for a brief space of time to refresh our memories of certain notable activities at a somewhat later date, but still one prior to the foundation of our Association. Naturally, we turn to William Beaumont, although preceded in experimental work on the processes of digestion by John R. Young, whose early death checked a career in medical science of which his graduating thesis gave clear promise, and accord him high rank in the list of distinguished merit, and hail him as the pioneer experimental physiologist of our country.

To the work and standard essay (1837) of William W. Gerhard, fresh from the clinic of the great master Louis, followed soon by the papers of James Jackson, Jr., "a candid listener to all opinions," George C. Shattuck, for many years a shining light in the medical faculty of Harvard, Enoch Hale, twice a winner of the Boylston Prize, and Alfred Stille, beginning his career

* President's address before the American Medical Association at the Seventy-Third Annual Session, St. Louis, May, 1922.

1. Dr. Nathan Smith Davis, Dr. James McNaughton and Dr. Peter Van Buren constituted the committee appointed to put in operation the resolution of the Medical Society of the State of New York that a national medical convention should be convened. This convention took place on May 5, 1846, and directed the drafting of a plan of organization which went into effect one year later, that is, in 1847, when the name "American Medical Association" was adopted.

as Gerhard's house physician, the first Secretary of the American Medical Association, and its President in 1867, whose eloquent words gave many of us our first lessons in the science and art of medicine, we owe the establishment of the clinical differences between typhus and typhoid fever long before they were widely appreciated by physicians abroad. Jacob Bigelow, ranking among the highest of American botanists, and "more learned, far more various in his gifts and acquirements than any of his colleagues," did more than any other man of his period to rescue in our country, as Holmes has said, "the practice of medicine from the slavery to the drugging system which is part of the inheritance of the profession." Although even in the latter part of the eighteenth century, British physicians had indicated how the contagion of puerperal fever may spread, light did not shine in the darkness of this land, where only too often the birth chamber became the death chamber, until, five years prior to the first publication of Semmelweis' immortal observations, Oliver Wendell Holmes read before the Boston Society for Medical Research his famous and also immortal paper on "The Contagiousness of Puerperal Fever." He broke the trail which was to lead to an era of safety. Therefore it is that a certain day in April, seventy-nine years ago, should be red-lettered in the calendar of American medicine.

To this comparatively early period belong Ephraim McDowell's introduction of ovariotomy into surgical practice (1809), and Sims' first work and observations (1845), which ultimately led, seven years later, to the cure of a condition previously almost invariably irremediable, and with one accord they are acclaimed the founders of operative gynecology in the United States. To this era, too, belong the achievements of many others whose names hold high place on the scroll of merit of our surgical household: Physick, precise and deft, the unsurpassed lithotomist of his day; Nathan Smith Davis, physician and surgeon, accounted to have done more for the general advancement of medical and surgical practice than any of his predecessors or contemporaries in this country (Welch); William Gibson, scientist, author, artist, with his eventful surgical record in war and peace; Philip Wright Post, unrivaled practical anatomist and notable teacher; Valentine Mott, distinguished as a pioneer in vascular surgery and for his record in the ligation of arteries; John Collins Warren, famous in the annals of surgical anesthesia, and in the operation for strangulated hernia, endeared to us always, and especially today, as one who was prominent in the establishment of the American Medical Association. The list is a long one; these are only a few examples. American surgeons have contributed a sterling chapter in the history of our profession. Even as they did in these earlier days, so they are doing now. The stimulus which Horner and Gross gave to the study and evolution of pathologic anatomy must not be forgotten, and the year preceding the foundation of the American Medical Association is ever noteworthy because of the introduction of ether anesthesia. It is unnecessary to discuss controversy and priority claims. Crawford Long and William Morton are safely enshrined in our memories. The great debt we owe to Bigelow and Warren for their successful efforts in establishing the administration of ether as a permanent part of operative surgical technic can never be repaid.

The time devoted to this limited and imperfect review is not, it may be hoped, time wasted. Is it not right, on an occasion like the present one, to believe that our attention should not be centered entirely upon the achievement of modern science and practice? May we not try, and especially you of the younger generation, to gain inspiration for the conduct of the higher medical life from the work and careers of the Fathers in our Israel?

It is not without dignity in the background of medical effort in our land, nor with any lack of inspiring exemplars in the order of men set apart for the sacred office of the physician, that the American Medical Association came into existence. Formed with the high purpose of elevating the standards of medical education, and purifying the methods of medical practice, it has never forsaken its lofty aim, nor shall it, if we approach our tasks with rightness of heart, force of character and clean, straight thinking.

PROGRESS DURING THE EXISTENCE OF THE ASSOCIATION

During the seventy-five years of our existence as an association, there has been a mighty forward movement throughout the world in the activities of our profession. Because of Pasteur's and Koch's researches, the science of bacteriology was founded, and sturdily it has grown; by the grace of Pasteur's genius and the immortal work of Lister, the great principles of asepsis were established, whose adoption has "saved more lives than war has ever slain"; by virtue of Pasteur's discoveries, the science of the specific prevention of disease has arisen, and "ever higher immunization raises her Red Cross."

During this period came other advances; the substitution in medicinal therapeusis of a clearer understanding of the physiologic action of drugs for the older empiric methods; the study of the phenomena produced by the disturbances of the function of the ductless glands and their treatment, and a better concept of the disorders of metabolism; improvement in the management of so-called functional diseases, especially those of the nervous system; studies and discoveries in relation to insect-borne fevers, notably malaria and yellow fever, and to the protozoal parasites as causes of disease; the application of protozoology to scientific medicine; the development of chemotherapy and the co-operative work of chemistry, pharmacology and clinical medicine; the value of radioactivity in the cure of disease processes and of morbid growths; the improved approaches to diagnosis, whereby clinical observations and examinations are fortified by satisfying "the exacting conscience of the laboratory;" the elevation of the standards of the so-called "specialties," and their removal from a position of comparative isolation to one of closer affiliation with the methods of exact diagnosis and therapy; and the improvements in medical practice and surgical procedures along all the lines of their activities. This résumé, necessarily far from complete, gives some idea of the world's efforts in medicine, surgery and the allied sciences during the period of our existence as an association.

American physicians and researchers have played no mean rôle in these endeavors and in this work. Sometimes they have been discoverers, pioneers and leaders in the field of approach; sometimes followers of a lead and carrying on; always they are, like Beaumont, alert inquirers of the truth, knowing they live in restless times and are a part of them.

DEVELOPMENT IN TREATMENT OF DISEASE

To return, purely from the American standpoint, to a brief review of this period, and to introduce the second phase of this subject, no better reference could be found than the work of Daniel Drake, who was the first, as America's greatest medical historian has said, after Hippocrates and Sydenham, to do great things for medical geography and who was great in his relation to the topography of disease. Small wonder, then, that the presence of this man, whose sterling efforts to elevate the standards of medical education in this country, the very purpose for which our Association was primarily founded, occasioned an enthusiastic demonstration never surpassed in the history of our organization.

With the elaboration, forty-seven years ago, by Weir Mitchell, of improved methods "of renewing the vitality of feeble people," the "rest-cure," or Mitchell methods," came into existence, rehabilitating, if it did not revolutionize, the treatment of functional nervous disorders, and, slowly at first, won its way to universal favor. This therapeutic measure, coupled with his complete and compact presentation, in association with Ezra Dyer and William Thomson, of the evils of "eye-strain," and the amazing relief afforded by their correction, rank with the best scientific announcements of the nineteenth century. They have brought untold thousands relief from suffering, and enabled them again to take their places in the world's insistent work. And earlier in his career Mitchell's studies, in collaboration with two colleagues in Turner's Lane Hospital, as the junior and only living member of that famous "firm" has said, "laid the foundations of modern neurologic surgery."

In the early seventies, in spite of the results recorded from European laboratories, therapeutics in our country depended almost entirely on empiricism or clinical experience. The publication of Horatio C. Wood's famous book (1874), based on the application of the physiologic action of drugs to clinical medicine, helped more than any other single volume to lay the foundation of our present American system of therapeutics, and gave him just title to be regarded as a pioneer pharmacologist of our land.

Familiar as we are with the fine work of the Medical Corps of the United States Army in Porto Rico, and of the United States Public Health Service and of the International Health Board in our Southern states in campaigns against hookworm infection and the disastrous anemia it occasions, it is historically interesting to remember that a dozen years before these notable activities Joseph Leidy, our greatest anatomist, zoologist and paleontologist, while studying animal parasites and finding the hookworm, expressed the opinion that it might be the cause of pernicious anemia in the United States.

With just pride, the Army Medical Corps points to the records of its members in bacteriologic investigations, in parasitology, insect-borne infectious fevers and the specific prevention of disease. The achievements of Walter Reed and his associates, and their demonstration of the methods of the transmission of the virus of yellow fever; the large accomplishments of the Sanitary Corps of the Army in Cuba and Panama under the leadership of William Gorgas; the practical elimination of typhoid fever by vaccination, according to improved methods originally advocated in France, England and Germany, represent a few outstanding triumphs.

Almost General Gorgas was enabled to achieve his great enterprise and "write the last chapter of the history of yellow fever." The fame of these men is eternal; Reed and Gorgas sleep in Arlington; glory guards them. Ricketts made known the transmission of Rocky Mountain spotted fever and Mexican typhus. He answers in the roll-call of medical martyrs, and within the year Howard Cross has joined that illustrious company.

Discoveries in bacteriology, especially as they are concerned with the etiology, prevention and cure of disease, have steadily advanced. The relation of the white staphylococcus of the skin to wound infection and of the capsulated aerogenous bacillus to emphysematous gangrene, the disclosure of the cause and cure of cerebrospinal meningitis, and the etiology of infantile poliomyelitis, the investigation of specific proteins and experimentally produced bacillary disease, the demonstration of anaphylaxis from the bacterial diphtheritic product, the differentiation of bovine and human types of tuberculosis, and the detection of the cause of epidemic conjunctival affections, are notable examples of work and triumphs along these lines.

From the days when John Bobbs introduced cholecystotomy, when Gross reigned the undisputed premier surgeon of this country, when surgical practice was passing from the prelisterian to the postlisterian era, American surgery in all its branches has steadily developed, not only maintaining the high rank it has always possessed, but ever advancing it.

Among those no longer with us, Fenger, earliest of teachers of modern pathology, and original in his operative work in brain abscess; Senn, expertly trained by experimental researches for his notable contributions to intestinal surgery; Agnew, famed for technical dexterity and sureness of operative touch; Ashhurst, the first among the surgical scholars of his day; McBurney, noteworthy for diagnostic points in appendicitis and improvement in the operative approach; Hartley, originator of intracranial neurectomy for trifacial neuralgia; Louis Sayre, introducer of methods of suspension for Pott's disease; John Murphy, *facile princeps* of surgical clinical teachers, conspicuous along all the lines of his art, especially in his contributions to vascular surgery and gastro-intestinal and entero-intestinal anastomosis, are a few of the names which spring up quickly in our memories.

Among those who live and are at the height of their productive activities, the work of many has earned the order of merit. These men, with minds of wide scope, have broadened and developed operative surgery in all its departments and enhanced the surety of surgical diagnosis. Intracranial tumor localization, clarified by virtue of improved neurologic and ophthalmoneurologic knowledge and intraventricular air injection has greatly increased the exactness of surgical approach. New methods of intracranial neurectomy have been devised; direct medicinal applications to deeply placed nervous ganglions are satisfactorily made, and surgery of the spinal cord and of the peripheral nerves has been guided into avenues of noteworthy advance. The study of disorders of the pituitary body and their treatment by glandular therapy, by surgical interference, and in quite recent times by radium, fill a noteworthy chapter replete with American achievements. The early radical excision of cancer of the breast has in high degree reduced recurrence percentage; experimental researches in surgical shock, the blocking of shock in operations and the improved

methods of anesthetic administration have marvelously lessened the mortality lists. The opportunities afforded by war, skilfully accepted and elaborated, have brought to plastic surgery its recent noteworthy results. Direct bronchoscopy in its newest development has revolutionized the methods of removal of foreign bodies from the lungs.

Great clinics in all departments are available in many portions of our land, to the lasting benefit of those who seek relief and of those who come for instruction. Of one such great center it is impossible not to make special mention, wherein method and system and cooperative diagnostic technic and professional skill have developed an organization with a production of effective results that is unsurpassed.

Retiring from surgical reference, and turning now for a moment to medical clinicians, the names and work of many who have left us have conspicuous distinction, the list again curtailed, as in the circumstances it must be. We think at once of Austin Flint, a President of this Association, and of his skill in auscultation and percussion; of Jacob Da Costa and the elegance of his clinical teaching and diagnostic skill; of Edward Janeway and his wisdom as a consultant and his "almost uncanny" subtlety in diagnosis; of Reginald Fitz and his notable contributions on perforating inflammations of the appendix, pancreatitis and intestinal obstruction; of William Pepper, equally great in clinical ability, in university administration and elaboration of its functions in relation to the state and the community; and of Abram Jacobi, an alien by birth, but becoming a leader in American medical thought, a President of this Association, and sharing with Lewis Smith the honor of founding pediatric clinical instruction in our country.

The development of a medical literature written by American authors during the last sixty years has been characterized by ever-increasing excellence of the output, representing the results of clinical and clinicopathologic observation and research. Among these notable contributors the medical clinicians take prominent rank, including neurologists and pediatricians. The neurologic product is a rich one—studies of ascending and descending paralysis, isolation of previously unknown reflexes, new clinical entities, differentiation of mixed scleroses, and investigations of morbid processes so keen that neuropathology has become a well-nigh specifically distinct department.

Particularized examination of malarial fever, a just appreciation of the effects of altered blood pressure, a clearer comprehension of cardiovascular and renal disorders, the development of the doctrine of focal infections, which it is historically interesting to remember was first promulgated in this country by Benjamin Rush, who advocated the extraction of diseased teeth as a method of curing disease, improvements in infant nutrition and infant feeding, and the enthusiastic (sometimes, perhaps, overenthusiastic) attention devoted to the endocrine system, are a few of the many subjects to which the minds and work of our clinicians and researchers have been directed.

MORE RECENT DEVELOPMENTS

If time permitted, particularized mention should be made of the brilliant work by Americans of recent date in experimental embryology, morphology, physiology and pathology. To this record our own distinguished medical historian has directed the attention of the greatest continental authority on the subject, characterizing it as an interpretation of "the most important work in scientific medicine in this country."

As Sir William Osler has said, "A younger group of physiologic clinicians have been quietly but surely upbuilding and transforming American medicine." Not alone has there been a continuation of the welding of pathology with clinical medicine, but an ever-broadening field of activity in clinical, chemicophysical and experimental research. To do more than make titular record of some of this work is impossible, but even such an imperfect reference indicates the lines of endeavor. Witness the increasingly accurate methods of the functional diagnosis of renal disease, the studies in the physiology of renal excretion and the intimate pathology of types of experimental nephritis, and that sterling research on glomerular function and its well-nigh startling results. The advance in the technic of basal metabolism in disease and the studies of disease disturbance, the recent investigations of acidosis in children, in parathyroid disease, glycosuria and nephritis, of carbohydrate metabolism in diabetes and related diseases, of the clinical pharmacology of respiratory functions, of the methods for studying lung volume and their application to the study of disease, of the respiratory function of the blood and the direct analysis of arterial blood represent higher scientific researches culminating in their adaptation to specific medical needs. Studies in the pathology and etiology of rickets, in the physiology of the cerebrospinal fluid, in the transmission of measles, in the immunologic separation of the streptococcus associated with scarlet fever, in the development of active immunization against diphtheria, and in thyroid function also indicate by their very titles their practical application to disease.

To this list could be added the notation of many highly scientific researches, for example, the physicochemical basis of the rate of growth in the animal world, of the character of individual proteins, of immunologic reaction, and of the response to stimulation by light, all indexes of the brilliant record, before referred to, which is being made by the "younger group."

Of inestimable value in all this work has been the stimulating suggestion and supervision of those who have earned the title of "master," and especially of that exemplar among the men of science whose loyal disciples far and wide in this land and in the lands beyond the seas have reflected in their efforts his example, his influence, his scientific imagination and his instruction.

The importance of cooperation between medicine and chemistry becomes daily more evident; and, although important discoveries because of such cooperation have been made, in the words of a recent valuable report, "If we compare the number and scope of our institutions for medical research with those of other countries, it is evident that much remains to be done before we can aspire to leadership in chemicomedical research." It is therefore insistently evident that a strong appeal must be made for an increase of facilities in this regard in the United States. The wide influence of the membership of this Association should be utilized to its fullest extent to take advantage of the opportunities for work along these lines. These words are intended as a strong recommendation that this subject shall have, not only the active sympathy of our Association, as it unquestionably has, but that there shall be organized effort to make increased opportunities available for this type of research.

The service of the medical fraternity during the past war has been the subject of many addresses, and with notable exactness and eloquence has been reviewed by three of our Presidents and by the Surgeon-General of the United States Army. No words now spoken could add to the glory of this event, the record of which forms a treasured chapter in the annals of our medical history.

Because today we celebrate the seventy-fifth anniversary of our foundation, this review of medical events and achievements has concerned itself alone with those of our own physicians, past and present, without for a moment forgetting, in this hour of our rejoicing, and with no thought of vaingloriousness, the debt we owe to European discoveries, instruction and stimulation. We know, and we do not forget, the men across the seas, who were and are the giants of their day. We know that without them and without what they have done and are doing, we could not have reached the place we now occupy, and all we wish to make plain is that we have not been, nor are now, laggards in the field of medical endeavor. We believe that we have in some respects and along certain lines earned leadership. We strive in friendly scientific competition to attain to leadership in provinces as yet unconquered.

THE ACTIVITIES OF THE CENTRAL OFFICE

A competent, intelligent appreciation of the work which is actually done at the headquarters of the Association can be obtained only by a visit to the central offices.

Homeless nineteen years ago, today the Association possesses a good building on its own property. But even so, it is not sufficient; facilities and space must be commensurate with large and ever-increasing enterprises. Hence an important decision has been reached, and a plan put into operation, whereby new buildings shall be erected and, moreover, building operations instituted not for the present alone, but in full consideration of the future and its requirements.

Established thirty-nine years ago, THE JOURNAL has developed, under its present masterful editorship, until it has reached the high position it now occupies in the foremost rank of medical journalism. Today it reaches more than 80,000 subscribers, and extends its influence to an assembly of readers three times greater than that of any other medical publication in any language. The printing plant is unrivaled as a medical press. From it come the Spanish edition of THE JOURNAL, which has accomplished its purpose of establishing closer relations with Pan-American countries; also five special journals, and all the books and publications of the various Councils.

In the Biographic Department the personal data with respect to every licensed physician and every medical student are collated and classified. For seventeen years the Council on Pharmacy and Chemistry, in association with a finely equipped laboratory, has broadened its activities until its work may be characterized as a propaganda for the rational use of drugs; its recorded investigations and suggestions as to remedial agents are of lasting benefit to those whose paramount duty it is to heal the sick and check the inroads of disease. The Propaganda Department has become a clearing house for information on the nostrum evil, quackery and allied subjects. It is a great agency of righteousness, exerting power for good in public health which cannot be estimated, which is consecrated to the best interests of the citizens of our community, and which is vitally valuable in the protection of their well-being. The hope is expressed that the day is not far distant when the Association, through its central offices, shall publish a magazine, or a series of bulletins, wherein the information which the Propaganda Department and the Council on Pharmacy and Chemistry gathers shall be suitably arranged, edited and explained for the benefit of the lay public; wherein, too, the aims, results and value of legitimate medicine shall be clearly stated in contrast to the pretence of illegitimate practice and therapy. This information the public craves, and has a right to receive. It obtains it now in scattered articles, in occasional public lectures, in statements, often vague and badly understood. It should be available in a standard publication issued with the weight of recognized authority.

The Council on Health and Public Instruction has assiduously concerned itself with the protection of scientific research, the conservation of vision, vital statistics, and public health education. The Council on Medical Education and Hospitals, under eminent leadership, has accomplished results second to none in their importance. The enormous amount of statistical information which has been gathered not alone represents a mere collection of published information, but interprets the results of personal inspection, the only really trustworthy method of procedure. Its steadfast endeavor has been directed to the elevation of the standards of medical education, and the product of its labor is not the result of isolated energy. It has called in consultation, by means of specially appointed committees, the leading medical educators of the country. It has organized an annual congress, largely attended, by representatives of medical and educational interests from all over the United States and from Canada, where the problems involved have been discussed frankly and freely, and standards have been set and policies have been formulated. The object sought has been attained, not through revolution, but by evolution. Today American medical education, in its best development, maintains its allotted order of precedence, ranking high in the world's just estimation.

Just because progress has been great, the obligation is imposed that it shall be greater, that old problems shall receive renewed study, that new problems daily presenting themselves in the ever-changing scenes of modern medical instruction and modern medical requirements shall attract the insistent attention of those whose duty it is to endeavor to solve them.

A few suggestions in this regard follow, not with any idea that they clear up difficulties, but with the hope that, although they are not new and often have been expressed in similar or in other terms, they may stimulate future action on the part of those to whom wisdom has been given along the lines of improvement in medical education, especially where reconstruction is evidently needed.

MEDICAL EDUCATION

Medical education, omitting from consideration premedical instruction, naturally divides itself into: (*a*) undergraduate or pregraduate education; (*b*) graduate or postgraduate education and (*c*) university extension education, that is, community service.

1. *Pregraduate Education.*—The standards have been raised to an acceptable height, and a curriculum suggested after conscientious and sometimes meticulous study and thought. But emanating from educators

and from the student body there is a justifiable and well-known criticism, expressed almost epigrammatically by one of them, unusually well balanced and among the favored ten: "We get our instruction in packets. The students never realized, or more properly, were never made to realize," he proceeded, "the proper relation, for example, of anatomy and physiology to the general scheme, until the 'clinical year' arrived, and by that time the packet had grown old and musty."

As has been clearly stated by Dr. Henry S. Pritchett, "these fundamental sciences should be taught, not as something separate from medical practice, but as part of it. The fiction that the medical student can be prepared for medical practice by learning a mere fragment from every field of science ought to be definitely given up." Moreover, it is evident, as has often been pointed out, that instruction in these fundamentals—physiology, anatomy and pathology—is too widely, perhaps too strictly, separated from clinical training, which should be introduced into the curriculum at a time sufficiently early to make it the important medium through which the student shall acquire a familiarity with the practical application of these subjects. These should keep pace with the other branches of the tree of knowledge, being neither lopped off nor allowed to wither.

Elimination of this "packet-system" resides not alone in alteration of individual teaching, but in cooperative work, in that the head of each department shall personally and practically become acquainted with the scheme of instruction as carried out by every other department which has vital relation with that of his own, and present his material accordingly. The reply that this technic is in active operation is not sufficient; otherwise the criticisms referred to would not be rife.

A plan calculated to obviate this fault could be put in operation by the appointment, for example, of a member of the faculty who, in addition to his scholastic duties, should be a liaison officer, and who should be empowered (he must be a man of tact, intelligence and force) to supervise the cooperation suggested, correlate the instruction, and put out of existence the "packet-system." The dean of a Faculty, even if he has "authority to carry out fair ideals of medical education," is too burdened with executive and business duties to fulfil satisfactorily the functions of a coordinating officer defined in this regard. It is just for this reason that certain medical institutions have, in addition to the dean as ordinarily employed, appointed a dean of students. What is needed, however, is a dean of teachers, not in name, but in actual practice.

The curriculum is overweighted with instruction in the so-called "specialties," not because they should not be taught, but because of the manner in which they are presented. It requires little consideration to realize that in the time at the teacher's disposal a specialized branch cannot be revealed to the student in the sense that when he enters into his professional life he is fitted to assume the responsibilities of its practice. The very name "specialty" indicates that such is the case, and yet only too often we who are in charge of such departments, unconsciously perhaps, even while we bitterly complain of the diminishing scale of allotted hours, are tempted to burden tuition with particularized instruction and description unnecessary and unabsorbable at this period of the student's career. Neither is it worth while to afford the pupil the opportunity of learning only what has been called "a mere fragment" of such divisions of medical science, nor to attempt to satisfy the pedagogic conscience with the statement promulgated with wearying reiteration that the student should be taught of this and that "specialty" only "what the general practitioner ought to know." In point of fact, that is, only too frequently, exactly what he is not taught, or not taught in the way it should be if he is to carry the knowledge with him into his graduate life.

Naturally, it is vitally necessary that the medical student shall be thoroughly grounded in the symptomatology, diagnosis and treatment of the commoner diseases which by universal consent and practice have been listed as "specialties" (the term is unfortunate), and that his limitations shall be impressed on his mind, i. e., his responsibility in relation to expert help, and when it is required, exactly as he receives instruction, for example, in the exanthems. But it is not worth while to spend hours in trying to teach students in their overcrowded undergraduate years the delicacies, for instance, of exact retinoscopy, as if they were in training for their life work along such lines. It *is* worth while, and absolutely necessary, for example, to make them realize the pernicious activities of eyestrain in relation to headache, the neuroses, functional gastric disturbances, and the long line of its interpretations, and to make them easily familiar with the simpler methods of detecting its causes, exactly as they are taught the significance of focal infections, or the consequences of protein sensitization. The same is true in many other particulars which easily suggest themselves, but need not be detailed.

But this cannot be done if the teachers of departments having allied interests stand apart, each handing out his own packet, doubtless admirable in itself and carefully wrapped, while each is largely ignorant of just what the other package contains. How much better would the entire product be if it represented the result of cooperative work symmetrically blended.

These faults in medical education do not pertain to the so-called specialties alone; the "general clinic" is by no means guiltless. It has been pointed out time and again that major surgery, for example, is far too frequently exploited—the word is used in its original sense, and not with the meaning which has in recent times become attached to it. Ten gastro-enterostomies in one period of general surgical clinical instruction, with never an opportunity of witnessing in the same room a finger amputation or a circumcision, representing a tally kept by a statistically inclined student, is not a record that, from the standpoint of practical surgical demonstrations, justifies commendation.

If pharmacology shall represent the sum of scientific knowledge concerning drugs, their preparation and their activities, it must be, and is, coordinated with chemistry. Moreover, the pharmacologist should be able by virtue of his training and experimental work to ascertain the effect of drugs in human diseases. But he cannot do this to the student's practical advantage, and by that same token to his own better development, unless he has access to clinical material (and this is true also of the department of research medicine), associating himself with the division of medicine in this respect, or else conveying the results of his observations through the medium of a teacher of applied therapeutics as an associate of his department.

Drugs are not the only remedial agents, and too little attention is paid to the principles and methods of physical therapeutics, or, if you please, mechanotherapy and its indications. On this neglect, in part, at least, depends a certain well-known drift from legitimate medical supervision.

In short, looking at this matter from any standpoint, if the student is to be properly fed educationally, he must have a much more evenly balanced diet, and, in the words of a great educator, "reform of the curriculum of the undergraduate medical school is one of the most pressing questions of present-day medical teaching."

The conspicuously excellent result which the cooperative work of our Council on Medical Education has achieved in elevating the standards of medical instruction in this country is an earnest that the attention which is being directed to the reformation and rehabilitation of the professional curriculum shall culminate in an equally fine issue. Surely this is a matter of deep concern to the members of our Association, who with definite right demand that those who shall in the future become their associates, or constitute their replacements, shall be properly equipped to meet the requirements of medical practice in whatever city, town or community they are destined to serve.

In spite of the well-recognized plethora of the curriculum, medical history should be brought to the attention of the student, not only because it represents an educational asset of value, but because it is of real service in shaping character and enhancing ethical traits. It is not necessary that special hours shall be assigned; the main facts can be readily and briefly woven into the fabric of general instruction as the course proceeds from one subject to another, enabling the students to "draw new life from heroic examples."

In the reformation of the medical curriculum, chiefly constructed as it is to meet the demands of the cure of disease, more place must be found to satisfy the claims of preventive medicine. It would be foolish not to recognize what has been described as "the change from cure to prevention as an outstanding tendency in contemporary medicine." We see how amply endowed schools have been and are being founded granting special degrees in public health; and, if doctors of medicine are to retain their share of this work, to which they are entitled, and be not only healers of the sick, but also, as they should be, "advisors to keep people well," instruction in our schools of medicine in this regard must be more universally amplified and of a better quality than that which at the present time usually obtains.

We have advanced our standards of medical education and multiplied the hours of instruction and demonstration, making ever increasing demand on the student's time, energy and intelligence; but have we in all respects fulfilled our duty? Is it not fair that the student should in his turn make certain demands on us with respect to the art of teaching? Many clinicians, surgeons and laboratory men happily combine high grade efficiency in their professional work and in their teaching, but not always. It is not proper, therefore, that, failing in the latter, they should be urged, if not required, in the words of Dr Pritchett, "to bring themselves to consider the art of teaching as also within their field of educational activity."

Whether medical students shall be instructed by "full-time" clinical teachers is a subject which has excited keen interest and occasioned vigorous discussion, and has sometimes called into action what Hacket would call "an acrimony of voice and gesture." The fact that this rule has been adopted in a number of medical schools in this country and in England does not bestow upon it the quality of essentiality in medical education. Even those who are strong advocates of "full-time" clinical teachers frankly admit that the case is not proven, or, in the words of one of them, "it is too early to predict the outcome of this new experiment."

Although there is no intention to speak about the considerations for and against this matter, there can be no objection to recording a personal belief that the experience gained in private practice furnishes the head of a clinical department with an asset in his teaching of which the student destined to be a practitioner cannot afford to be deprived.

The clinical teacher may himself not find time for practical research work, as that is ordinarily understood (although this by no means is always the case), but it should be conspicuous through the aid of his laboratory and his assistants in his departmental activities, and he should be thoroughly imbued with the spirit of research, without which his instruction cannot attain its fullest development. Observation, contact with medical practice, research, the spirit of research and teaching are the important avenues along which medical science has advanced.

2. *Graduate Teaching.*—That even today, except in limited supply, opportunities for graduate instruction, greatly needed and eagerly sought, are not commensurate with the rank they deserve and require, is a matter of common knowledge and of regret. To be sure, for many years postgraduate courses have been available, and some of them have been conducted, especially those which pertain to the "specialties," on a high plane and have achieved good results; but, in the main, it must be admitted that they have been unsatisfactory. Indeed, only too frequently men have been certified as qualified along certain lines of medical and surgical practice after inadequate instruction, and they have been stamped, as it were, with approval unjustified in the circumstances.

The recent war has been an important factor in awakening the medical conscience in this regard, in that it disclosed a situation far from creditable. Indeed, in many areas it was necessary to put into operation graduate instruction in general terms, and not alone as this pertained to the special needs of warfare.

In this era of reconstruction, no problem in medical education should create keener interest than that which is concerned with graduate instruction. This subject is receiving the earnest attention of medical educators, has prominent place on the program of our Council on Medical Education, and has stimulated a previous presidential plea. It should make a strong appeal to all members of our Association, teachers and physicians alike, and those in charge of graduate medical teaching should unite in elevating its standards and in furthering the plans for improving its technic; it should take its place in the rank with undergraduate instruction, and keep pace with it.

Time does not permit an analysis of the types of graduate medical courses which are and have been in operation. We are all well acquainted with the methods (as summarized by Dr. Meeker) of obtaining graduate educational equipment through the medium of clinical and laboratory assistantships, of personal courses, of attendance on clinics recommended from a central registration office (London type), of short "polyclinic courses" (too often imperfect and superficial), of brief organized university courses (somewhat similar to the polyclinic courses, but with the advantages of university surroundings), and of assistanships under university and foundation control. None of

these plans, in spite of certain excellent qualities which pertain to most of them, meets the requirements of graduate instruction as it should be considered at the present time, in the sense of taking place in a school of graduate medical education, and, moreover, in one in cooperative affiliation with an undergraduate medical school, and preferably with one which is a department of medicine in association with a university.

In the last-named circumstances, the graduate school of medicine becomes part of a university system, as Dr. Meeker has said, and should be so organized that it can take advantage of all other available or required medical and scientific instruction, hospital or laboratory, and industrial plants. Under such conditions, a truly comprehensive plan of graduate medical education is possible, founded on the best types of courses, correlated with the facilities which have been named, and leading to a certificate or suitable degree. That such a plan is not "too comprehensive," and can be carried out with gradually increasing satisfaction to those concerned, is evident from the fact that at least in one university it is in full and satisfying operation, and has made a contribution of the highest value to medical education. There is no reason why in the near future similar methods of graduate school education should not be active in all our larger medical centers. No appeal can be too urgent for sympathetic, moral and financial support for such a type of graduate medical education.

3. *Medical Extension-Education.*—In recent times a rather widespread disquietude has arisen lest the supply of doctors should become inadequate. From the numerical standpoint, as a recent investigation has shown, this fear may be dismissed. But the geographic distribution of physicians is a problem that may well excite concern. It would seem that the rural districts, villages and smaller towns are being drained, on the one hand, and, on the other, are failing to receive their just quota of the graduates in medicine, owing to the attractions and greater facilities—laboratory and hospital—of the larger towns and cities, from which the physician with a modern training not unnaturally declines to be separated. Also, poor economic conditions add their deterrent influence.

The recent graduate stationed in the country, lest he suffer a disastrous eclipse, must keep in practical touch with new developments in diagnosis and treatment, and, moreover, his patients are insistent that he shall do so. He cannot leave his duties to seek such information and instruction in distant "centers;" hence methods are being devised whereby such facilities shall be brought to him in an endeavor to satisfy the practitioner's laudable ambition and his requirements, as well as the desires of his clientele.

In some of our states, South and West, and also recently in the East, annual courses have been organized, conducted through their respective university extension services, in cooperation with the county societies alone, or with these societies aided in certain respects by the state boards of health. Primarily it should be ascertained in which districts such courses are desired. Information in this respect may well be secured by the committees on scientific work of the state societies, as, indeed, in certain commonwealths it has been, and the courses suggested after consultation with the local or county society, and their membership, because it is from them that the invitation should emanate. Such instruction must be free from the taint of imposition, and must not be enforced by state authority.

Naturally, a corps of teachers would be required, and these can be obtained from the schools of medicine in the state, or from those which are departments of a university, preferably of the "younger group," or from members of the state societies who are suitably equipped for such instruction. State boards of health, as has already been noted, may well help in this movement. As a distinguished commissioner of health has said: "Highly approving of such courses, if they are requested by the practitioners through their state and county societies, I shall gladly place at the disposal of the selected group of teachers, if it is desired, the facilities of my department."

Reference has been made to graduate medical courses based on university-extension services, as they are already in operation, notably in one state. Therefore, when a university system includes a school of graduate medicine, it can carry its educational efforts to groups of physicians found in selected localities. Such endeavors have as yet not attained their full development, and for the most part, at least, are in their formative stage. A comprehensive program with respect to this type of education is being studied, on request, by the dean of the Graduate School of Medicine of the University of Pennsylvania and a committee appointed by the state medical society, which includes the formation of groups of physicians at favorable localities, each member of the group being regularly registered as an extension-student, the courses to be conducted in hospitals, and based on diagnoses, prognoses and recommendations as to the best medical and surgical procedures. The patients, previously fully studied according to the best modern methods, with their histories, the laboratory reports and the tentative clinical conclusions prepared by the members of the extension-group, constitute the "material" of the teacher or teachers provided by the university.

RELATION OF THE ASSOCIATION TO THE WORK

The Secretary of our Association has investigated carefully the relation which the American Medical Association, working in cooperation with its constituent associations, should bear to this subject, especially as it is concerned with the smaller counties, and suggests that in many instances the councilor districts of the state might be used as the units for the presentation of such courses, the teachers to be secured from the sources already named.

It is evident not only that instruction of the character which has been discussed from various points of view is desirable, but that it is desired. Moreover, this desire and this need emanate not alone from rural districts, but also from larger towns and cities, separated from medical centers, but provided with hospital facilities. It is further evident that the courses must vary according to the needs and wishes of those who desire to attend them, and include, on the one hand, information on history-taking, the technic of the simpler laboratory tests and improved and approved methods of physical examination, and, on the other, more advanced procedures of medical, surgical and diagnostic technic.

It is a subject which should increasingly attract the attention of physicians, whether they be practitioners or educators, or both. It is a matter which has been

introduced in the program of our Council on Medical Education, and should form part of the deliberations of our Association of State Secretaries. It constitutes one of the many reasons which justify the appointment of a Field Secretary, through whom a close "personal touch between component and constituent state associations and the central body can be maintained." Happily, the choice of the Board of Trustees in this respect presages a new era of admirable and much-needed cooperative work.

All of us know that other methods have been suggested and put into operation designed to meet the situation which surrounds many physicians who for various reasons are not in contact with hospital and laboratory facilities. Prominent among these are diagnostic clinics, community health centers, and well-equipped small, so-called community hospitals, which in certain quarters and from some physicians have encountered a not unnatural opposition. It is useless, however, to disregard the fact that, in the words of a thoughtful medical writer, a "transition from individual to organized practice has begun," and that the movement spreads widely. This presents a problem not in contemplation, but in active existence, and its solution must be undertaken with the protection of the rights of the general practitioner as a paramount duty. But the general practitioner, properly unwilling to submit to the abrogation of professional work, on which he has a just claim, must also be not unwilling, intelligently and in a spirit of cooperation, to recognize the desires, the demands, if you choose, of the people among whom he lives to have at their disposal the same advantages which pertain to those who dwell in larger centers, equipped with facilities which meet the requirements of modern medicine. The public is not satisfied with a service which is devoted only to the cure of maladies and the mending of injuries, but is very much alive to the advantages of the prevention of disease and the conservation of health; and he, the practitioner, should be equally alive to his opportunity to secure leadership in such movements, a leadership which is his to hold and maintain, provided he approaches the problem in a spirit of cooperation and with a "resolute will to win." Moreover, as a recent investigation has shown, when properly conducted health activities (preventive medicine) are in operation, and secure the doctor's cooperation, not only is the total number of people applying to the practitioner for treatment increased, but his work has been made simpler and more effective. Again, the establishment of a rural hospital, where its need is definitely recognized, financed and managed, as in most instances it would be, with lay aid, but open freely to the doctors of the district, and with all its facilities at his disposal, as should be the case, represents an important incentive for young graduates in medicine to go to such regions, making their start as interns within its walls.

Questions relating to this whole matter, that is, in general terms, to the readjustments in medical practice (which be it remembered are not only impending, but are in operation), with due regard to the evaluation of the rights and requirements of the practitioner and the public, complicated as they are, none the less demand investigation, which shall eventuate in their satisfying solution. Hence it is a happy circumstance that the Trustees, mindful of their duty and in full recognition of a principle laid down on the day of the founding of our Association, are, in cooperation with the component and constituent parts of our organization, conducting a survey of the whole situation. The hope is expressed that this survey, or investigation, shall satisfy all the demands which it entails, and result not only in "the formulation of such principles and policies as would assure the greatest good to the public and to the general practitioner," but in recommendations with respect to a reformation of the medical curriculum, especially as this is concerned with failure to yield greater attention to health conservation which is fundamental in relation to this great problem.

The relation of the medical profession to so-called "cult-practice" is often, if not usually, misunderstood. As has been well said, there is no desire or intention to interfere, even if this were possible, "with the freedom of the individual to employ any method of healing he may please," so long as the interests of public or individual health are not endangered thereby; but, when vicious or dangerous tendencies crop out, it is the business of regular medicine, not only to take cognizance of them, but to endeavor to correct them. Hence it becomes the duty of every qualified practitioner to seek membership in his county and state medical organization, to study projected legislation related to the practice of any part of the healing art, to see that it is constructed on a proper basis, and in this regard to keep in touch with medical legislative conditions, exercising his or her right of franchise and right of influence.

If the plan to establish a legislative bureau as part of the activities of our central office, linked in its endeavors with those of the state associations, should be consummated, it would constitute a movement of the highest value in relation to our legal requirements and rights, and enable a united profession to exercise a just influence which could not be disregarded.

CONCLUSION

It has seemed proper this evening to utilize some of your time in retrospect on the past, to review, albeit in fragmentary manner, the history of American medical achievements, and of the establishment, the development and the activities of the American Medical Association, to emphasize, with not unnatural pride, the greatness of an organization which represents the profession of an entire country, and to refer to required readjustments along certain lines. That which has been done is an earnest of that which shall be done. In the words of a distinguished medical leader, spoken in this city twelve years ago, "we are justified in the confidence that, with the united support and loyalty of the profession, this Association, broadly representative and standing for the best ideals of medical science and art, and for professional and civic righteousness, will contribute a beneficent share to the working out of our national destiny."

The advancement of medical effort, the improvement of medical education, the highest type of medical service in the cure of the sick and injured and in the conservation of health, the protection of medical and public interests, leadership in all the phases of medical activity and the maintenance of ethical standards—these are the agenda of our Association. With confidence we face the future—its coming events, its opportunities, its responsibilities. Let us be loyal in thought and action, steadfast in effort, united in purpose, remembering that "The one Great Light which halos all is passionate bright endeavor."

UTERINE HEMORRHAGE*

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On this occasion I shall state in as simple words as possible merely what I myself have observed in the laboratory, in the ward, and in the operating room.

The various conditions causing uterine hemorrhage fall into two main groups: (1) those dependent on recent pregnancy, and (2) those independent of recent pregnancy. If we bear in mind these two main groups, a study of uterine hemorrhage becomes much easier.

UTERINE HEMORRHAGE DEPENDENT ON RECENT PREGNANCY

Uterine hemorrhage dependent on recent pregnancy occurs with: (1) premature separation of the placenta; (2) retained membranes; (3) hydatidiform mole; (4) chorio-epithelioma; (5) tubal pregnancy, and (6) pregnancy in one horn of a bicornate uterus.

Premature Separation of the Placenta.—In such a case, the physician is aware that pregnancy exists, and he understands the cause of the bleeding. His chief aim is to keep the patient quiet and prevent a miscarriage, if feasible. The possibility of placenta praevia is always in mind, and he will naturally be on the lookout for this condition.

Retained Membranes.—Here also the patient usually gives a history of pregnancy. Every physician, however, encounters patients who stoutly deny the possibility of pregnancy and who do their best to mislead the physician in order that he may innocently dilate and curet, and bring away the fetus and membranes. In the typical case in which no criminal operation has been attempted and in which the patient does her best to cooperate with the physician, there is a history of missing one or more menstrual periods, then bleeding has commenced, then a fetus has escaped with some water, and the after-birth has or has not been expelled.

In such cases dilation of the cervix and gentle curetting will bring away any remaining portion of the after-birth, and the diagnosis will be definitely settled by the finding of villi or shadows of villi in the tissue removed.

In taking the history one must ascertain, if possible, whether or not the fetus has been actually seen. If it has, well and good; if not, tubal pregnancy must be borne in mind, because more than once the expulsion of a decidual cast from the uterus has been taken for a miscarriage, and the existing tubal pregnancy completely overlooked. This phase will be considered more in detail under tubal pregnancy.

Hydatidiform Mole.—Now and again a pregnancy will apparently proceed normally for two or three months, and then there may be a little brownish discharge, or the patient may not feel particularly well. The case is watched for a month or two, when it is realized that something is radically wrong. The physician does not want to terminate a normal pregnancy, and yet he cannot afford to neglect his patient. Finally, it becomes clear that the uterus must be emptied, and he dilates the cervix and at once encounters quantities of small cysts that vary considerably in size, and remind one of the variation in size of the individual grapes seen when a grape-vine has worn out or gone to seed.

Now and then, as the uterus containing a hydatid mole increases in size, a multilocular cystic tumor develops on each side of the uterus. A knowledge of this fact materially aids one in making the diagnosis. These multilocular cysts are filled with relatively clear fluid. They are lined with several layers of lutein cells, and scattered throughout the stroma of the enlarged ovary are rows or clumps of these cells. I have never seen these multilocular lutein cysts except in association with a hydatid mole or with chorio-epithelioma. After removal of the mole, the cysts tend to disappear, and the ovary may again assume its normal size.

Chorio-Epithelioma.—Occasionally, after a hydatid mole has been removed, the patient continues to bleed. Examination discloses that the uterus is enlarged, and now and then a metastasis may be noted in the vagina or elsewhere. When the process is advanced, hemoptysis may be noted, due to metastases in the lung. After a hydatid mole has been removed, one is always fearful that chorio-epithelioma may develop or may have existed prior to removal of the mole. In some cases of chorio-epithelioma, no history of a previous mole can be elicited.

The histologic pictures of hydatid mole and chorio-epithelioma are very much alike. The large cystic villi, the proliferation of Langhans' layer and the marked outgrowth of the syncytium with vacuolization are present in both cases. In order to differentiate between simple hydatid mole and chorio-epithelioma, it is necessary to examine a section from the wall of the uterus, and, of course, this is possible only after the organ has been removed. A diagnosis of chorio-epithelioma should never be made from scrapings. The finding of coagulation necrosis of the tissue lining the cavity of the uterus, when the diagnosis lies between chorio-epithelioma and hydatidiform mole, is strong presumptive evidence of malignancy, but even then it is unwise to make a flat-footed diagnosis.

One must either go ahead and remove the uterus in suspicious cases or await developments.

We cannot be too careful in the examination of tissue removed shortly after pregnancy. The uterine musculature just beneath the placenta in the early months of pregnancy often contains large, suspicious cells which seem to represent the normal reaction of the stroma and muscle cells to the stimulus of pregnancy. Were they to be encountered in the uterine wall in the absence of pregnancy, sarcoma would be suspected; but, occurring when early pregnancy has existed, they are normal. Bilateral, multilocular, corpora lutea cysts frequently accompany chorio-epithelioma.

Tubal Pregnancy.—Twenty-five years ago, few physicians knew anything about tubal pregnancy. Today, nearly all cases can be recognized when rupture occurs, and many of them are diagnosed before rupture takes place, when operation can be performed with relative ease and little danger to the patient. The previous history in the majority of these cases is well known: possibly one pregnancy several years before and no conception since then, a period a few days or a month late, then a little more or less bleeding, continuous, a little pain to the right or left of the uterus, and in some cases a premonition of impending danger. On pelvic

* Read before the South Carolina State Medical Association, Rock Hill, S. C., April 19, 1922.

examination, a small mass may be felt to one side of the uterus, and when a clot has formed in the pelvis, this may be felt breaking up under the vaginal finger, as rather firm jelly would do.

Our duty is to watch for new signs that will enable us to recognize tubal pregnancy at an early stage. In 1905, while examining a colored woman under anesthesia just prior to operating, I found a small multinodular myomatous uterus, and a nodule to one side of the uterus that gave a totally different sensation to the examining finger. On gentle pressure it had a velvety feel; on deep pressure it was firm. I diagnosed tubal pregnancy without reading the history, and operation disclosed an unruptured tubal pregnancy. The velvety feel [1] was undoubtedly due to the engorged vessels in the tube wall.

Years ago, I examined scrapings from a uterus in which the surface epithelium was intact, and the glands near the surface were slitlike and in their deeper portions hypertrophied. The stroma of the mucosa just beneath the surface had been converted into typical decidua. I wrote the attending physician that a pregnancy existed somewhere. He removed a large myomatous uterus which filled the abdomen, and in the right tube, which lay up under the liver, was a pregnancy. From the appearance of the uterine mucosa it was certain that an extra-uterine pregnancy existed somewhere.

I saw an instructive case in Washington, D. C. The patient had gone over her period a few weeks, and had had some bleeding. She was curetted, and microscopic examination revealed the surface epithelium intact, the glands slitlike near the surface, and characteristically hypertrophied in the depth, while the stroma of the mucosa just beneath the surface had been converted into decidua. Although thickening of the tube could not be felt even with the patient under anesthesia, a diagnosis of unruptured tubal pregnancy was made, and at operation, next day, a tubal pregnancy not over 1 cm. in diameter was found.

In some cases, the thickened uterine mucosa is expelled, and the patient, and even the physician, may conclude that a miscarriage has occurred, and that all danger is over, whereas the pregnant tube is liable to rupture at any time.

Everything that escapes from the uterus should be most carefully examined for the fetus. If it is found, tubal pregnancy can in the vast majority of cases be definitely excluded.

In the volumes dedicated to the late Sir William Osler on his seventieth birthday, July 12, 1919, I reported a new sign that may be of value in the diagnosis of some cases of tubal pregnancy, especially when the tubal bleeding has not been severe, but nevertheless rather constant.

March 21, 1918, there entered the Church Home and Infirmary a thin, wiry woman who looked to be nearly 60 years of age, but who was actually only 38. She was the mother of seven children. For three weeks she had had pain in the right lower abdomen with intermittent attacks of abdominal distention. One week after the onset of the trouble the umbilical region suddenly became bluish black, although there had been no injury whatever in this region. Pelvic examination was very unsatisfactory on account of the marked abdominal distention. Operation, March 27, disclosed the uterus slightly enlarged, and, to the right of it, a freely movable mass, about 8 cm. long and 5 cm. broad. The bluish black appearance of the navel unassociated with any history of injury, together with a mass to the right of the uterus, made the diagnosis of extra-uterine pregnancy relatively certain, although the patient had not missed a period, and although there had been no uterine bleeding.

The umbilicus itself was of a greenish hue; above it there was a faint bluish tinge; below it the bluish appearance was more intense. The bluish discoloration gradually diminished in intensity during the patient's sojourn in the hospital. The gradual changes in color that took place in this region were suggestive of those that occur in a black eye resulting from a blow. At the operation the abdomen was filled with dark blood, and attached to the fimbriated end of the right tube was an extra-uterine pregnancy, which I was able to remove without sacrificing the tube. The patient made a good recovery.

Pregnancy in One Horn of a Bicornate Uterus.[2]—Early in my practice I saw a young woman who had missed a period and then started to bleed. On examination I found a uterus which seemed to be a little enlarged, and to one side of it was a well defined lump. The patient's father was a physician, and after due consideration we concluded that an exploratory operation would be advisable. I made an incision about an inch long and found a bicornate uterus with pregnancy in the right horn. The patient left the hospital in a week and went on to term.

Pregnancy in one horn of a bicornate uterus is really extra-uterine, when considered from the standpoint of the nonpregnant horn. If uterine bleeding exists when there is a tubal pregnancy, we can expect, in some cases at least, bleeding from the nonpregnant horn of a bicornate uterus when pregnancy exists in the other horn.

UTERINE HEMORRHAGE OCCURRING INDEPENDENTLY OF RECENT PREGNANCY

Uterine hemorrhages occurring independently of recent pregnancy naturally fall into the following groups: (1) hemorrhage due to constitutional conditions; (2) hemorrhage due to benign changes in the mucosa of the cervix and body of the uterus; (3) hemorrhage due to malignant changes in the mucosa of the cervix and body of the uterus; (4) hemorrhage due to the presence of uterine tumors, and (5) hemorrhage due to diseases of the adnexa.

Hemorrhages Due to Constitutional Conditions.—In cases of hemophilia, there may be a tendency to very profuse periods. In some other diseases there is also a tendency to profuse hemorrhages at the periods. Such bleeding naturally comes under the care of the physician and not the surgeon. These hemorrhages are incidental to the medical condition with which they are associated. The cause of the hemorrhage is evident, and as a rule the constitutional condition and not the local bleeding receives attention.

Hemorrhage Due to Benign Changes in Mucous Membrane of Cervix and Body of Uterus.—These include (1) cervical polypi; (2) polypi of the endometrium; (3) hyperplasia of the endometrium; (4) an increased tendency for the mucosa of the cervix and vagina to bleed in elderly persons, and (5) endometritis, with blocking of the cervical canal in women advanced in years.

Cervical Polypi: Simple polypi, no matter where situated, usually conform in histologic appearance to the mucosa from which they arise. Cervical polypi

1. Cullen, T. S.: The Velvety Feel of an Unruptured Tubal Pregnancy, Bull. Johns Hopkins Hosp., 1906, p. 154.

2. Cullen, T. S.: Pregnancy in One Horn of a Bicornate Uterus, Giving Symptoms Identical with Those of Tubal Pregnancy, Bull. Johns Hopkins Hosp. **17**: 155, 1906.

consist of cervical mucosa. When the polyp originates far up in the cervical canal, it is composed chiefly of cervical glands and stroma. If it springs from a point near the external os, the surface of the polyp on one side may be covered by the squamous epithelium of the part.

Nature tends to rid herself of the polyp, and it is gradually extruded. During the process of extrusion it becomes engorged, and there may be hemorrhage into the stroma of its tip. When the polyp is exposed and subjected to trauma, its tip often shows an inflammatory reaction.

Cervical polypi often bleed a little. The patient complains of a slight intermenstrual bleeding, and in cases in which the surface of the polyp is inflamed there may be a slight purulent or watery discharge.

Polypi Springing from Mucosa of Body of Uterus: These consist of uterine mucosa which has been forced into the cavity of the uterus, forming a tonguelike projection. Some of the glands are often dilated, and the tip of the polyp may show some hemorrhage. The center of the base of the polyp often contains strands of nonstriped muscle which extend into it from the uterine wall.

Polypi in the body of the uterus tend to produce excessive menstrual periods. There may be some slight intermenstrual bleeding as well.

Hyperplasia of the Endometrium: In this condition the mucosa is usually much thicker than normal. The surface may be smooth or show a tendency to be gathered into folds or polypi. The surface epithelium is, as a rule, thicker than normal, and the epithelial cells tend to be higher and to stain more deeply than usual. Some of the glands are small and round, others are very large. These large glands may be tortuous or spherical. Their epithelium is higher than usual, closely packed, and stains more deeply. Here and there the epithelium of an entire gland may stain lightly, coming out in sharp contrast to the surrounding glands.

The stroma of the mucosa is exceptionally cellular, and not infrequently nuclear figures are found in the stroma between the glands.

In no other condition of the endometrium do we, as a rule, find nuclear figures in the stroma, although they are normally present in the epithelial cells. Occasionally large venous sinuses are found scattered throughout the stroma, sometimes partially or completely filled with organizing blood. Hyperplasia of the endometrium is invariably accompanied by profuse and prolonged menstrual periods. The condition is usually noted during the child-bearing period, but I observed it in a girl, aged 16 years, so severe that when she entered the hospital the hemoglobin was only 30 per cent. On curettage we removed several tablespoonfuls of mucosa.

After curettage, the periods are usually relatively normal for from three to five months, and then curettage again becomes necessary. Sometimes after four or five curettings the patient is permanently relieved of her symptoms.

Hyperplasia is one of the most frequent causes of profuse menstrual periods. There is usually no intermenstrual discharge, and on histologic examination of the scrapings there is not the slightest resemblance to cancerous tissue.

Increased Tendency for Mucosa of Cervix and Vagina to Bleed in Elderly Women: In some elderly women there is marked atrophy of the vagina, and the retracted cervix merges almost imperceptibly into the vaginal mucosa. In some of these cases, no matter how careful the assistant is in washing up the vagina, there is a considerable amount of hemorrhage, blood oozing from fine points on the vulva, vagina and cervix. Any appreciable contact in such a case will tend to cause slight bleeding.

Mild Endometritis, with Blocking of Cervical Canal in Women Advanced in Years: When a woman of 60 years or older says that, since her menopause ten or more years before, she has had no discharge until the last week or two, and that this is blood-tinged and slightly irritating, we at once suspect cancer.

On several occasions I have examined such patients and found the cervix normal in appearance. On curettage I have been surprised to obtain so little mucosa. This on microscopic examination has shown marked atrophy of the mucous membrane of the body, together with a mild infection of the endometrium. There has been a slight infection, the cervix has become occluded, the secretion has collected, and, finally, the cervix has opened up again.

The occasional occurrence of these cases should not, however, lull us into a false sense of security. Every woman beyond the menopause who has bleeding should be examined, and if the cause does not then become evident, the uterus should be curetted and the scrapings examined microscopically.

Hemorrhage Due to Malignant Changes in the Mucosa of the Cervix and Body of the Uterus.[3]—These include: (1) squamous-cell carcinoma of the cervix; (2) adenocarcinoma of the cervix; (3) adenocarcinoma of the body of the uterus (squamous-cell carcinoma of the body is rare), and (4) sarcoma of the endometrium.

The vaginal portion of the cervix is covered by squamous epithelium. The cervical canal is lined with the mucosa which produces the mucous plug during pregnancy. The glands of this mucosa are of the racemose variety, and the epithelium lining them is of a very high cylindric type.

The cavity of the uterus is lined with a mucous membrane which usually varies from 2 to 4 mm. in thickness. Its glands are tubular, and between them is a very unusual stroma whose cells, as we have seen, become decidual cells when pregnancy exists inside or outside the uterus.

From any of these three kinds of mucous membrane, cancer may develop. Accordingly, we have three varieties of cancer of the uterus, squamous-cell carcinoma of the cervix, adenocarcinoma of the cervix, and adenocarcinoma of the body of the uterus.

Squamous-Cell Carcinoma of the Cervix: Advanced carcinoma of the cervix is readily recognized by a large friable growth, which too frequently involves the entire cervix and extends to the surrounding vaginal mucosa.

As a result of the campaign of education waged by the American Society for the Control of Cancer and by local medical societies, patients are coming to the physician earlier and earlier, so that cases are seen now in which the physician is by no means sure whether the cervix is cancerous or not. These patients should be sent to the hospital to have a wedge of the suspicious area cut out and examined microscopically. A few months ago[4] I reported a very early squamous-cell carcinoma of the cervix accidentally discovered when

3. Cullen, T. S.: Cancer of the Uterus, 1900, pp. 693.
4. Cullen, T. S.: Early Squamous-Cell Carcinoma of the Cervix Accidentally Discovered When the Body of the Uterus was Being Curetted for Hemorrhage Caused by Hyperplasia of the Endometrium and by a Small Submucous Myoma, Surg., Gynec. & Obst. **33**: 137 (Aug.) 1921.

the uterus was curetted for hyperplasia. The cervical cancer was too recent to give rise to symptoms, but the microscopic picture was well developed, and gave some valuable clues as to the very beginning of squamous-cell carcinoma of this region.

Adenocarcinoma of the Cervix: This frequently begins up in the cervical canal; but if the cylindric epithelium extends down beyond the external os, as it sometimes does, then the adenocarcinoma may be seen on vaginal examination. The diagnosis of this variety of gland cancer is sometimes difficult. It is the most malignant of all uterine cancers, and fortunately the least frequent.

Adenocarcinoma of the Body of the Uterus: This can be diagnosed with certainty only from scrapings. As a rule, the diagnosis is easy. When the operator removes a large amount of friable material with the curet, he suspects cancer, and hastens to make a microscopic examination of the sections. There is as much difference between the appearance of the normal lining of the uterus, and cancerous tissue, as there is between two different patterns of wall paper. The diagnosis is made from the general pattern of the growth, or from individual cell changes, or from both. Now and again several sections must be examined, and occasionally it may seem best to curet again in a month or two, and examine fresh sections. This is, however, rarely necessary.

Sarcoma of the Endometrium: This condition is rare. When sarcoma is found in the uterus, it is usually in the musculature, or associated with uterine myomas.

When sarcoma develops in the endometrium, it must of necessity arise from the stroma of the mucosa.

Several years ago I saw a patient who had slight uterine bleeding and a small nodule in the breast. The uterus was curetted, and while frozen sections were being made, the breast nodule, which was benign, was removed.

Microscopic examination of the scrapings revealed a sarcoma. Complete hysterectomy was done at once, and on the day after operation the patient was in excellent condition, but on the second day her temperature rose to 104 F; on the third day it was again normal, and on the fourth day it rose to 105 F. Malarial organisms were found in the blood, appropriate treatment was instituted, and a normal recovery followed. This case has been reported in full.[5]

Hemorrhage Due to Presence of Uterine Tumors.—Tumors of the uterus are divisible into three main groups: (1) myomas; (2) adenomyomas, and (3) sarcomas.

Uterine Myomas: These are very common, and in the beginning are usually interstitial; but as they grow, many of them become subperitoneal, and are either sessile or pedunculated. Some of them project into the cavity of the uterus. A myoma may reach large proportions without in any way influencing menstruation, but when it encroaches on the uterine cavity the periods are liable to be prolonged. A myoma not over 2 or 3 cm. in diameter, projecting well into the cavity of the uterus, may cause such severe menstrual hemorrhage that the patient is almost exsanguinated.

In some cases the submucous myoma becomes necrotic in its more dependent parts, causing a foul and almost continuous watery discharge from the uterus. On examination, a portion of the growth may be seen extending through the cervix. This tissue often feels soft, but on traction is found to be tough. Cancerous tissue, on the other hand, is friable. When a large submucous myoma has been expelled from the uterus, it may completely fill the vagina. In such a case the cervix can be recognized as a smooth ring encircling the pedicle of the tumor.

Adenomyomas of the Uterus: These form an interesting group of tumors. Although in a certain percentage of these cases the uterus is not enlarged, in the majority of them the uterus is at least twice the normal size. The inner muscular layers of the uterus are transformed into a coarse, diffuse, myomatous tissue into which the uterine mucosa flows. The thickening may be limited to the anterior or posterior wall, or form a mantle around the entire uterine cavity. In time, portions of the adenomyoma may be forced to the outer surface, forming subperitoneal adenomyomas, or into the cavity, producing submucous adenomyomas. In many cases there are also a few small, discrete myomas scattered throughout the uterus.

Adenomyomas generally cause a very profuse and prolonged menstruation, but no intermenstrual bleeding. At the period there may be a grinding pain in the uterus, due undoubtedly to swelling of the many areas of uterine mucosa in the diffuse growth of the uterine wall. Curettage, as a rule, yields perfectly normal mucosa. When adenomyoma exists, the uterus tends to become adherent to the surrounding structures.

Sarcomas: Uterine sarcomas are relatively rare. In from 1 to 2 per cent. they are associated with uterine myomas. Should a sarcoma develop in the endometrium, it can be diagnosed from scrapings; but in the average case it will be diagnosed as a myoma, and its true character detected only when the abdomen is opened, or when the tumor has been cut into. Typical sarcoma on section differs markedly from myoma. It is homogeneous, porklike, not striated, and as a rule is easily broken up with the finger, whereas the finger makes no impression whatever on the myoma.

Occasionally, portions of a sarcoma become submucous, and undergo necrosis and gradual disintegration. In such cases there is a good deal of foul vaginal discharge. Microscopic examination of pieces of the tissues will give the correct diagnosis, although the differentiation between a degenerating myoma and sarcoma is at times somewhat puzzling.

When considering uterine tumors and their differentiation from cancer, we must always remember that the two conditions are occasionally associated in the same uterus. In our series of cases we found squamous-cell carcinoma of the cervix in more than 1 per cent. of myoma cases, and, in nearly 2 per cent., adenocarcinoma of the body of the uterus complicated the myomatous condition.

Uterine Hemorrhage Due to Diseases of the Adnexa.—Tubes: One of the cardinal signs in tubal pregnancy is uterine bleeding. In cases of purulent salpingitis also the patient frequently has uterine hemorrhage. Time and again the operator is in doubt as to whether the given case is one of tubal pregnancy or pelvic inflammation. Sometimes he makes a diagnosis of pelvic infection and finds tubal pregnancy, and on the other hand he may diagnose extra-uterine pregnancy only to find that he is dealing with pelvic infection. Fortunately, in both instances it is necessary to open the abdomen, and the temporary error in diagnosis does not in any way militate against the patient's welfare. If it were essential to make an absolute diagnosis

5. Brady, Leo: A Sarcoma of the Uterus Arising From the Endometrium, Bull. Johns Hopkins Hosp. **29**: 164 (July) 1918.

before operation, a curettage would usually reveal decidua where pregnancy existed, but there would be no sign of decidua in the inflammatory case.

Ovaries: Inflammatory diseases of the ovaries are invariably secondary to and associated with salpingitis; consequently, what has been said about uterine bleeding associated with pus tubes applies to inflammation of the ovary.

Ovarian cysts and ovarian tumors occasionally cause slight uterine bleeding. The presence of the tumor independent of the uterus usually gives us the clue as to the hemorrhage, and with the removal of the ovarian growth the bleeding ceases. It is always well, however, to examine the uterus carefully if the bleeding has been severe. A woman who had been bleeding severely had not only a large ovarian tumor with a twisted pedicle, but also a carcinoma of the body of the uterus. When considering the diagnosis and treatment of any given lesion in the pelvis, it is always essential to remember that any one or more of various conditions may be responsible for the hemorrhage.

CONCLUSIONS

I have merely given a bird's-eye view of the various conditions that occasion uterine bleeding. When I was a student, we knew little or nothing about chorioepithelioma, tubal pregnancy, hyperplasia, pus tubes or adenomyoma of the uterus. No one ever thought of attempting to remove a cancerous uterus, and a hysterectomy for fibroids was rarely considered. It was several years after my graduation before I saw the first appendix removed. If physicians could have looked down the ages from the beginning of time and had the power of selecting the best period in the world's history in which to practice gynecology and abdominal surgery, could we possibly have selected a more fruitful one than the last three decades? America has had no small part in placing abdominal surgery on such a sound and satisfactory scientific basis.

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USE OF THE CARBON ARC LIGHT IN THE PREVENTION AND CURE OF RICKETS

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In previous papers,[1] attention has been called to the curative effect of sunlight in infantile rickets. It has been shown that exposure to the sun's rays for about one-half hour daily, or even four or five times a week, is sufficient to bring about a definite and dependable cure of this disorder. The curative effect can be noted not only by ordinary physical examination, but also by roentgenograms of the epiphyses of the wrist, and by an increase in the content of inorganic phosphate in the blood. These results have been substantiated on rats by us[2] and by Shipley, Park, Powers and McCollum[3] in experiments in which the sole protective agent was frequent exposure to sunlight.

As is well known, Huldschinsky[4] and others have made use of the mercury vapor quartz lamp for this purpose. The rays which this lamp emits are rich in ultraviolet, but its spectrum differs markedly from that of the sun, in that it is discontinuous, and that much of its ultraviolet rays are of wave lengths considerably shorter than those of sunlight. For this reason, as has been referred to elsewhere,[5] it was deemed worth while to try the effect of the white flame carbon arc lamp, which more nearly approaches the sun's spectrum.[6] The fact that this lamp is very rich in luminous rays was another reason for testing its therapeutic value, for it seemed that it might provide illumination at the same time as therapy.

It has been our experience, as stated elsewhere, that in the winter, and especially in the early spring, rickets comes about on every diet. It is generally mild and overlooked; but if routine clinical, roentgenologic and chemical examinations are carried out, it is surprising what a small proportion of bottle-fed infants will be found to have escaped rickets by March or April. This aspect of the subject will, however, be discussed in detail at another time. It may be mentioned, in passing, that rickets is by no means confined to the artificially fed baby. A recent survey of a group of breast-fed infants showed that at the end of March almost one half gave definite roentgenologic evidence of rickets.[7] The infants which were treated by the carbon arc light had been on standard diets, which, as will be observed in Table 1, included raw certified milk, dry milk, malt soup and protein milk. All received orange juice daily. Roentgenologic examinations had been carried out every month in a routine way, as in the case of all infants in the institution, and at the first sign of rickets heliotherapy was undertaken, the diet remained unchanged.

The carbon arc lamp was not made for this definite purpose, and was similar to, but smaller than, those employed in taking motion pictures. A coarse meshed wire screen was placed in front of the lamp. The carbons were "white flame," and the current was 30 amperes and 110 volts. The lamp can be so adjusted that 15 amperes is used, in which case it gives a decreased amount of illumination. The infants, entirely naked, were placed at a distance varying from 3 to 9 feet (as mentioned in the table) from the lamp, and were provided with spectacles or other covering for the eyes. This form of irradiation does not lead to any tanning of the skin. That this is the case shows that pigmentation is an unessential factor in the heliotherapy of rickets, and argues against Rollier's theory that the beneficial action of sunlight is due to and in accordance with the degree of pigmentation which is produced. There is no tendency to superficial burns. Whereas one has to be very careful in using the

1. Hess, A. F., and Unger, L. J.: The Cure of Infantile Rickets by Sunlight, J. A. M. A. **77**: 39 (July 2) 1921. Hess, A. F., and Gutman, M. B.: The Cure of Infantile Rickets by Sunlight, **78**: 29 (Jan. 7) 1922.

2. Hess, A. F.; Unger, L. J., and Pappenheimer, A. W.: The Prevention of Rickets in Rats by Exposure to Sunlight, Proc. Soc. Exper. Biol. & Med. **19**: 8, 1921.

3. Shipley, P. G.; Park, E. A.; Powers, G. F., and McCollum, E. V.: The Prevention of Rickets in Rats by Exposure to Sunlight, Proc. Soc. Exper. Biol. & Med. **19**: 43, 1921.

4. Huldschinsky, K.: Die Behandlung der Rachitis durch Ultravioletbestrahlung, Ztschr. f. orthop. Chir. **39**: 426, 1920.

5. Hess, A. F.: Further Experiments on the Prevention of Rickets in Rats by Exposure to Light, J. Biol. Chem. **50**: 44, 1922.

6. The spectrum of this light is more continuous (a line spectrum), and its ultraviolet rays more nearly resemble those of the sun; like the sun, it is rich in rays about 300 microns.

7. These nursing infants were almost all well nourished and the offspring of the Russian Jewish population of the tenement district of New York. In referring to the incidence of rickets or drawing conclusions of the effect of diets or hygienic measures, the month when the observations were made should always be stated. It is not sufficient to mention merely the season, as rickets increases definitely month by month—from December to January, January to February and February to March.

mercury lamp to avoid burns, and it is difficult to gage the correct dosage of light, in the use of the carbon lamp almost no care need by exercised in this regard; an infant, at the very outset, can be exposed for one hour at a distance of 3 feet and will manifest no signs of irritation of the skin on the following day. Nor does the same care have to be exercised to avoid giving an overdose.

The course of the treatment was followed by clinical, roentgenologic and chemical examinations which were repeated at least every month. The table gives the details of the cases, but may require some interpretation. It will be noted that in every instance there was a rapid subsidence of the signs of rickets, which was evident by roentgen ray frequently after daily exposures of but two weeks. This consisted of calcification of the lower epiphyses of the radius and ulna, which increased progressively as the treatment was continued. Accompanying these changes was the constant increase in the inorganic phosphate of the blood, which, in some cases, had a tendency to fall after heliotherapy was discontinued; this phenomenon had been previously noted in relation to the treatment of rickets with sunlight. When carried out according to the method of Doisy and Bell, the normal inorganic blood phosphate of an infant may be considered to be from 4 to 4.5 mg. per hundred cubic centimeters of blood, although there is a marked "seasonal tide" in this regard—an ebb in the winter and a flood tide in the summer—which must be taken into consideration. In rickets the inorganic phosphate is almost always below 3.75 mg. per hundred cubic centimeters, and, as will be noted in the table, may drop as low as 2.17 mg.

It will be observed that the intensity of the treatment differed in two respects; in one set of cases exposures were carried out for one-half hour at a distance of 3 feet, whereas in another group the period was lengthened to one or two hours, and the distance of the lamp set at 9 feet. This procedure came about in the following way: At first our object was to ascertain merely whether this form of irradiation would effect a cure, so that the lamp was placed as near as possible without occasioning an undue degree of heat. Exposures were made for fifteen minutes daily at first, and very soon increased to one-half hour. When it became evident that these rays were effective the infants were placed at a distance of 9 feet, with the object of ascertaining whether the lamp could be used for illuminating the room at the same time as for therapeutic purposes. It will be seen that one hour even at this distance sufficed to bring about a rapid cure.

Before the carbon arc lamp was used clinically, experiments with animals had shown that rats could be regularly protected in this way, and it has been used in carrying out a large number of tests in relation to the effect of light in experimental rickets. Exposures of about three minutes daily at a distance of 3 feet were sufficient to bring about this protective effect. Table 2 gives a summary of the data on fifty-three animals

TABLE 1.—RACHITIC INFANTS TREATED WITH CARBON ARC LIGHT

Case	Age, Months	Diet	Treatment: Dates	Treatment: Length, Minutes	Treatment: Distance, Feet	Roentgen Examinations: Dates	Roentgen Examinations: Rickets	Inorganic Phosphate (Blood): Date	Inorganic Phosphate (Blood): Mg. %	Comment
1. M. E.	20	Malt soup	12/ 9/21	15	4	12/15/21	Moderate	12/ 6/21	3.70	K_2HPO_4, 2 gm. daily, 10/16/21 to 12/8/21
			12/16/21	30	4	1/ 2/22	Healing	1/ 5/22	4.00	
			1/ 8/22	30	3	1/17/22	Improved	2/11/22	4.36	
			to 2/22/22	30	3	2/18/22	Healed	3/14/22	4.03	
						3/18/22	Healed	4/14/22	4.00	
2. Y. D.	12	Dry milk	12/ 9/21	15	4	12/15/21	Slight	12/ 5/21	3.70	
			12/16/21	30	4	1/ 2/22	Healing	1/ 5/22	3.90	
			1/ 8/22	30	3	1/17/22	Healing	2/15/22	4.31	
			to 2/22/22	30	3	2/18/22	Healed	3/15/22	4.08	
						3/18/22	Healed	4/13/22	4.03	
3. S. L.	5½	Raw milk	1/30/22	15	3	1/17/22	Slight	1/29/22	3.84	
			2/14/22	30	3	2/18/22	Healing	2/28/22	4.34	
			to 3/21/22	30	3	3/18/22	Healed	3/27/22	4.16	
						4/15/22	Healed	4/27/22	4.16	
4. D. R.	13	Raw milk	1/30/22	15	3	1/17/22	Moderate	1/26/22	3.49	
			2/14/22	30	3	2/18/22	Healing	2/28/22	4.16	
			3/21/22	30	3	3/18/22	Healed	3/27/22	4.16	
						4/15/22	Healed	4/27/22	4.27	
5. C. B.	6½	Raw milk	2/ 6/22	120	9	1/17/22	Slight	1/26/22	3.69	
			to 3/ 5/22	120	9	2/18/22	Healing	2/28/22	4.29	
						3/ 4/22	Healed	3/27/22	4.25	
						3/ 8/22	Healed	4/27/22	4.36	
						4/15/22				
6. M. C.	9	Dry milk	2/ 6/22	120	9	1/17/22	Slight	2/ 4/22	3.84	
			to 3/ 5/22	120	9	2/18/22	Healing	2/ 3/22	4.44	
						3/ 4/22	Healed	4/ 3/22	4.00	
						3/18/22	Healed	5/ 3/22	4.54	
						4/15/22	Healed			
7. R. S.	14	Dry milk	2/19/22	120	9	2/18/22	Moderate	2/17/22	3.73	
			to 5/ 9/22	120	9	3/ 4/22	Moderate	3/17/22	4.34	
						3/17/22	Healing	4/14/22	4.00	
						4/ 1/22	Improved	5/10/22	4.54	
						4/15/22	Almost healed			
8. F. F.	12	Protein milk	2/19/22	60	9	2/18/22	Moderate	2/ 9/22	3.71	
			to 5/ 1/22	60	9	3/ 4/22	Moderate	3/10/22	3.77	
						3/17/22	Healing	4/10/22	4.16	
						4/ 1/22	Improved	5/10/22	4.20	
						4/15/22	Improved			
9. D. J.	14	Dry milk	3/ 7/22	60	9	3/ 4/22	Moderate	1/ 7/22	3.11	K_2HPO_4, 2 gm. daily, 1/3/22 to 3/5/22
			to 5/ 9/22	60	9	3/18/22	Healing	2/ 3/22	3.22	
						4/ 1/22	Improved	3/ 3/22	2.77	
						4/15/22	Almost healed	4/ 1/22	3.57	
								5/ 2/22	4.46	
10. H. B.	17½	Raw milk	3/ 7/22	120	9	3/ 4/22	Marked	12/30/21	2.94	K_2HPO_4, 2 gm. daily, 1/3/22 to 2/5/22
			to 5/ 9/22	120	9			2/ 5/22	3.11	
						3/17/22	Healing	3/ 5/22	2.17	
						4/ 1/22	Improved	4/ 2/22	3.44	
						4/15/22	Improved	5/ 9/22	3.75	
11. P. B.	14	Protein milk	3/23/22	60	9	2/18/22	Slight	.....	3.50	K_2HPO_4, 2 gm. daily, 2/23/22 to 3/23/22
			to 5/ 9/22	60	9	3/18/22	Moderate	3/17/22	3.57	
						4/ 1/22	Improved	4/14/22	3.92	
						4/15/22	Improved	5/10/22	4.34	

which were treated while on the Sherman and Pappenheimer diet.

There is another aspect which should be referred to in connection with this study. In several cases we had attempted to bring about a cure of infantile rickets by means of large doses of the secondary potassium phosphate (K_2HPO_4) in addition to the ordinary diet; 2 gm. was given daily in divided doses. In view of the fact that rickets can regularly be cured in animals by an addition of phosphate to the dietary, it seemed as if this simple measure might be of value in infants. In four cases (Table 1), in which four different diets were being given, the potassium phosphate either failed to improve the condition, or the benefit was doubtful. Moreover, it will be noted that the inorganic phosphate of the blood decreased rather than increased during this period. On the other hand, there were prompt and definite evidences of cure in these cases when the carbon arc light therapy was substituted for the phosphate. In some, however, it seemed as if the previous administration of the phosphate aided and hastened the curative effect of the light.

TABLE 2.—PREVENTION OF RICKETS IN RATS BY CARBON ARC LIGHT

Rachitic Diet	No. of Rats	Irradiation: Duration, Minutes	Irradiation: Distance, Feet	Rickets: Roentgenogram	Rickets: Pathologic Condition
Flour, 95%.....	11	3	3	Negative	Negative*
Calcium lactate, 2.0%....	12	4	3	Negative	Negative
Sodium chlorid, 2%.....	4	5	3	Negative	Negative
Ferric citrate, 0.1%.....	12	10	3	Negative	Negative
	3	60	3	Negative	Negative
	3	60	6	Negative	Negative
	4	60	9	Rickets	Rickets
	4	60	15	Rickets	Rickets
	53				

* Two showed slight rickets.

The carbon arc lamp has been found, in the laboratory as well as in the clinic, to be a very effective therapeutic agent in the prevention and cure of rickets. It has the advantage of being comparatively inexpensive, and its rays are nonirritating to the skin, so that it can be used for hours with perfect safety. There can be little doubt that, in the near future, rickets clinics will be established in our larger cities, where not only cod liver oil will be supplied, as suggested and carried out in this city some years ago,[8] but also heliotherapy will be practiced. It would seem that in such clinics or in child-caring institutions, lamps of this kind may prove serviceable during the winter and spring months for protective therapy for groups of children. Such treatment would be of especial value for negro infants; for it is evident that if these babies—whose skin tends to filter out the essential rays of the sun—are to thrive in the cities of the temperate zone, they must be provided with a greater abundance of effective light than white infants.

16 West Eighty-Sixth Street.

8. Hess, A. F., and Unger, L. J.: Prophylactic Therapy for Rickets in a Negro Community, J. A. M. A. **69**: 1583 (Nov. 10) 1917.

Physician and His Fees.—The physician who is not clear in his charges, who veils his intention of holding his patients to their obligations by deferring the issue, not only breeds distrust but suggests the possibility that he is not familiar with the correct attitude which he should assume, and is fighting for time to recover his poise and to grapple with the new situation.—P. J. Flagg, *Hosp. Prog.* **3**:142 (April) 1922.

HIGH FREQUENCY CURRENTS AND ROENTGENOTHERAPY IN VESICAL TUMORS

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The introduction by Beer of the high frequency spark in the treatment of vesical tumors was an impetus to the study of satisfactory methods for controlling such growths. Endovesical and transvesical application of the high frequency current was taken up with great enthusiasm by urologists, so that at present these forms of treatment are considered by a majority as the method of choice in tumors of the urinary bladder. Clinical experience, together with the teachings of modern biology and pathology, have helped to clear the field. In the application of high frequency currents one must distinguish between fulguration, the destruction of structures by the electric spark, and surgical diathermy, the killing of tissues without sparking by the heat produced through the resistance offered by the tissues to the current forced through them.

Fulguration may be applied by the endovesical route, the cystoscope with the attached carrying tube and active electrode being introduced through the urethra, while the inert electrode is placed on the back of the patient. The destruction of the tumor is accomplished without opening the viscus, the current used being of low voltage and amperage. This procedure is the method of choice in all presumably benign tumors whose location and size permit approach by the fulguration wire. Whether the spark is directed to the base or the crown of the growth will depend on the character of the papilloma. The quickest method of removing such an excrescence is to place the wire tip directly in the base of the tumor. Thus the nourishing blood vessels are rapidly obliterated. In consequence, the growth shrivels immediately and the whole operation is finished in one step. This sort of fulguration is advantageously applicable only to the leaf shaped papillomas that have a constricted pedicle and are so transparent that the blood vessels running through them are easily seen.

However, in papillomas that carry a dendritic, bushy crown, the direct approach to the base may not only be difficult but also disadvantageous for other reasons. Even if one succeeds in placing the end of the wire into the base, the crown of the tumor is likely to drop over it, making it impossible to watch the effect of the spark. Then the pushing around of the crown may lead to the separation of intact particles, thus leading to multiple implantation of such fragments, whose inclination toward proliferation may eventually lead to a papillomatosis of the entire bladder. In all such instances it is advisable to start the coagulation from the top of the growth, bringing the active electrode successively in contact with various sectors of the crown.

Even if particles of the tumor are dispersed throughout the cavity of the bladder, these fragments are readily devitalized by the spark and unable to form an implant. As a rule, in such cases it will be necessary to make several applications at various sittings; but this disadvantage is outweighed by the safety of the procedure.

Endovesical fulguration must not be attempted if circulatory changes are observed around the base of the papilloma, though in all other particulars this growth may show the clinical signs of benignancy. These changes may be edema, submucous blood patches, engorged and numerous blood vessels, or

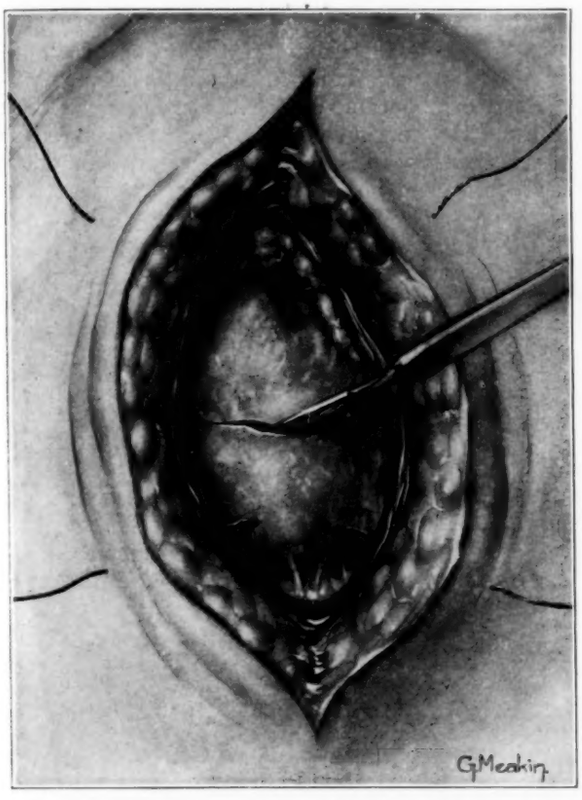

Fig. 1.—Bladder exposed; transverse incision placed between the two suspension sutures.

simply thickening and rigidity of the adjacent mucosa, which in such a case, as a rule, has lost its normal gloss. Then the application of the spark may involve pronounced danger. It must be remembered that the fulguration spark not only burns but also produces a mechanical effect, divulsing and comminuting the tissue it is brought to bear upon.

These circulatory disturbances may be due to inflammation subsequent to infection, or to malignant degeneration in and around the base of the tumor. In either case fulguration may be followed by untoward results. Infectious matter may be forced into the surrounding tissues, and severe pericystitis and even peritonitis may develop; in the case of malignancy, forced dissemination of malignant cells may result, which quite often leads to an explosive luxuriation, so that in a short time the whole pelvis becomes filled with cancerous masses.

In all cases of the character mentioned and in all decidedly malignant instances, surgical diathermy, after the bladder has been opened, should be employed; that is, currents of higher tension and voltage are used. The details of administering the high frequency current will again be regulated by the features peculiar to the tumor under consideration. The leading requirements are simplification of the entire procedure, avoidance of implantation of tumor particles likely to luxuriate in the adjacent areas, and the delivery of a finished surgical product, thus making possible an early resumption of the natural functions and shortening the time of recovery, and at the same time satisfying the principal postulate, the avoidance of a relapse of malignancy.

TECHNIC

We apply in vesical tumors solely the monopolar method. The inert electrode, a square of blocked tin, 20 by 10 cm., padded with gauze soaked in physiologic sodium chlorid solution, is placed under the hips of the patient, while the coagulation is carried out by a metallic electrode introduced into the opened bladder. Into the rectum a Barnes bag is inserted, and this is distended by 200 c.c. of water, raising the trigon and facilitating the clearance of the vesical base. The bladder is distended with 200 c.c. of a 2 per cent. protargol solution. By the usual median abdominal incision, the anterior aspect of the bladder is exposed, and the reduplication of the peritoneum is stripped off by gauze dissection, exposing freely the outer anterior bladder wall. Then in the upper and lower angle of the wound two tension sutures are inserted which penetrate the bladder wall. The ends of the suture are secured by metal clamps, the weight of which helps to elevate the bladder, which in later stages makes the vesical cavity better accessible. Now the bladder is opened between these guy ropes by a transverse incision (Fig. 1). The transverse incision, while permitting free exposure of the vesical interior, offers the advantage of facilitating the suturing of the bladder wound and at the same time prevents oozing of urine into the cavum retzii, in case the suture line should give. Then in the upper and lower angle of the vesical incision a fiber retractor is inserted. As a rule, pulling in an occipitocaudal direction will suffice to give sufficient clearance; in the case of very large tumors, one or two lateral retractors may have to be added. If one encounters an arboraceous bushy tumor, an electrode carrying three or four spikes is chosen (Fig. 2); and, by raining a shower of heavy sparks all over the crown of the tumor, a superficial coagulation or carbonization is accomplished. This deals successfully with any hemorrhage present, prevents bleeding during the following steps, and at the same time does away with the danger of implantation, because even if tumor particles are broken off during the necessary

Fig. 2.—Carbonization of arboraceous crown of tumor with multispiked electrode.

manipulations, these crumbs are already devitalized. If the tumor is pedunculated, its seared top is seized with forceps and gently pulled upward. The exposed pedicle is now severed with a galvanocautery closely to its implantation (Fig. 3). The resulting stump and the immediately adjacent area are now coagulated with a stamp-shaped electrode to the desired

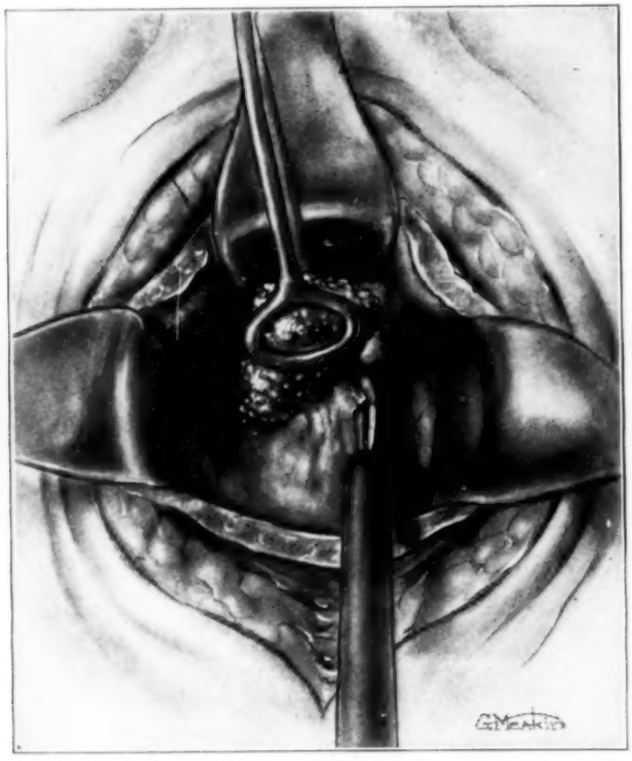

Fig. 3.—Elevation of tumor crown; severing of the pedicle by the galvanocautery.

depth (Fig. 4). If the tumor is dendritic, but rather sessile without a well defined pedicle, then the initial act of sparking is executed by means of a single spiked electrode. The sparks of this cover a lesser area than the multispiked one, but produce deeper penetration, so that the whole tumor mass is quickly reduced to a hard crust (incineration). This procedure is more in the nature of the original sideration. Then, the stamp-shaped electrode is applied again for the coagulation of the base, care being taken to include the whole visible and palpable area of malignant infiltration in the coagulation. The sideration and coagulation are carried on until a thoroughly dry scab results and no punctate oozing is to be seen. The scab is as a rule white, unless the tumor is very rich in blood, when it is black. Under no condition is the spike pushed into the tumor mass, for reasons explained above. Sessile infiltrating tumors are coagulated immediately with the stamp electrode without any previous sparking.

COMMENT

The extent of the coagulation and to what depth it ought to be carried out deserve some discussion. At first it was deemed necessary to coagulate the entire tumor mass in dealing with malignant growths. But experience covering immediate and remote results in bladder tumors and uterine cancers led to restrictions which, if applied, apparently improve the results in a striking way. If, for instance, a tumor, whether an indigenous vesical growth or a prostatic cancer that perforated into the bladder, involves the vesicorectal septum, a complete coagulation of this mass will produce a cloaca after the sloughing is finished. In addition to the distress caused to the patient, such a condition will almost invariably lead to general sepsis or to death by the development of a septic pyonephrosis. Therefore, in cases of this type the coagulation should penetrate the tumor only to a limited depth, while the remainder of it is left to the influence of roentgenotherapy.

In case the latter should be successful, then the part of the tumor that replaced to a certain extent the septum will in course of time be replaced by fibrous tissue, thus avoiding the formation of a cloaca. This procedure, originally instituted as the choice of the lesser evil, became under the weight of further experience the routine method. It was observed that roentgenotherapy following partial electrocoagulation yielded curative results that, in our experience, surpassed those previously accomplished by the employment of one of these methods alone.

After the necessary electrocoagulation is completed, the bladder is mopped clean, care being taken to do all the sponging by dabbing and not by wiping, thus avoiding traumatism to the vulnerable vesical mucosa. Then the incision in the bladder is closed by catgut sutures inserted in such a way as to guarantee a broad apposition and avoidance of impaction of the mucosa into the suture line (Fig. 5). Over this suture a simple running suture is whipped to insure water tightness. Then the tension sutures supporting the abdominal wall are placed. Underneath these sutures a fine drainage tube, preferably a silver one, is placed, parallel to the incision and protruding at each end of it (Fig. 6). In this way perfect drainage is insured, and even in case of infection, sloughing of the fascia is prevented.

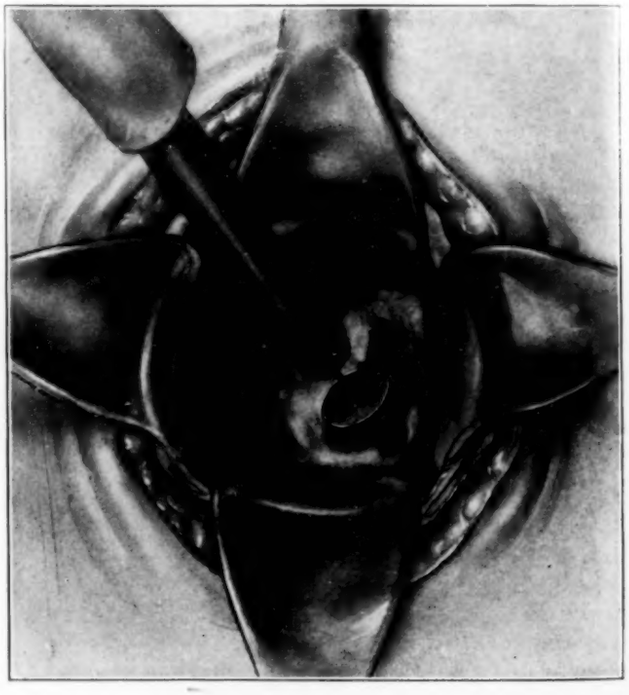

Fig. 4.—Coagulation of tumor base and concomitant sealing of adjacent lymphatics with the stamp-shaped electrode.

Then fascia and cutis are closed in the usual way, and the guy ropes are tied.

The patient either begins to urinate naturally shortly after the operation, or, if unable to do so, is catheterized at regular intervals until the natural function is resumed. As a rule, the whole wound heals by first

intention, and even if a slight breaking down should occur, the repair sets in quickly.

The sloughing away of the diathermic scab takes from ten to sixteen days, according to the extent of the electrocoagulation obtained. On account of the varying intensity of the desiccation in the various sectors of the area subjected to diathermy, and the timely difference in the subsequently developing demarcating inflammation, the sloughing proceeds in the various areas with varying velocity. Therefore there are never large chunks of scabs thrown off at once, and the loosened shreds are further softened by the urine, and the sloughed particles are voided with the urinary stream. Beginning at the end of the first week after the operation as a matter of extreme precaution the bladder is regularly flushed with an antiseptic solution.

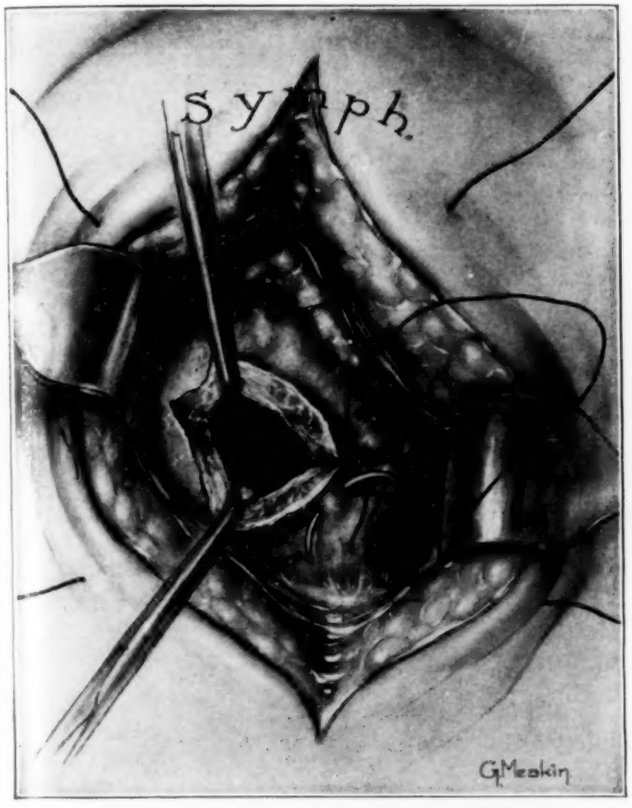

Fig. 5.—Vesical incision closed by a mattress suture.

THEORETICAL CONSIDERATION

In explanation, the following theory may be offered: It is shown that, subsequent to electrocoagulation around the necrosed area, there is created a zone of reaction, or aseptic inflammation; there is not only an invasion of highly active cells, as round cells and lymphocytes, but the fibrous tissue becomes abundantly vascularized and fibroblasts appear. It may be safely assumed that intact cancer cells existing within this zone also fall under this influence. All roentgenologists agree that the more hyperemic a structure is and the more it returns to the juvenile stage, the better is the prognosis for the curative effect of the therapeutic rays. It may be suggested that under the action of the rays these energized cells produce materials which, in turn, act systemically to reduce the excessive multiplication of malignant cells. It therefore became our routine to coagulate malignant tumors to a restricted depth only, and to leave the remainder to roentgenotherapy.

CLINICAL EXPERIENCE

Out of twenty-seven cases of malignancy treated in the manner described two patients died: A woman died three days after the operation, with the symptoms of protein poisoning, evidently due to insufficient sealing of the lymphatics, permitting rapid absorption of débris; a man succumbed to a gas-producing bacillus infection in the abdominal wound, which became evident on the fourth day after the operation.

All the other patients, the oldest one being operated on more than three years ago, do not show any relapse of malignancy at the present date.

The exposure, opening and closing of the bladder, may be done under local anesthesia; for the coagulation, general anesthesia is preferable; the short duration of this manipulation reduces materially the danger of general anesthesia.

SUMMARY

It should be mentioned that any extensive electrocoagulation is, as a rule, followed by the development of a more or less intensive edema of the vesical mucosa. If of a high degree, it may be and actually has been mistaken by the inexperienced for a relapse. Careful and repeated cystoscopic examinations will clear the issue. Roentgenotherapy in massive doses is administered forty-eight hours after the operation, thus taking advantage of the perithermic reaction. Preoperative irradiation interferes with the reconstructive potencies

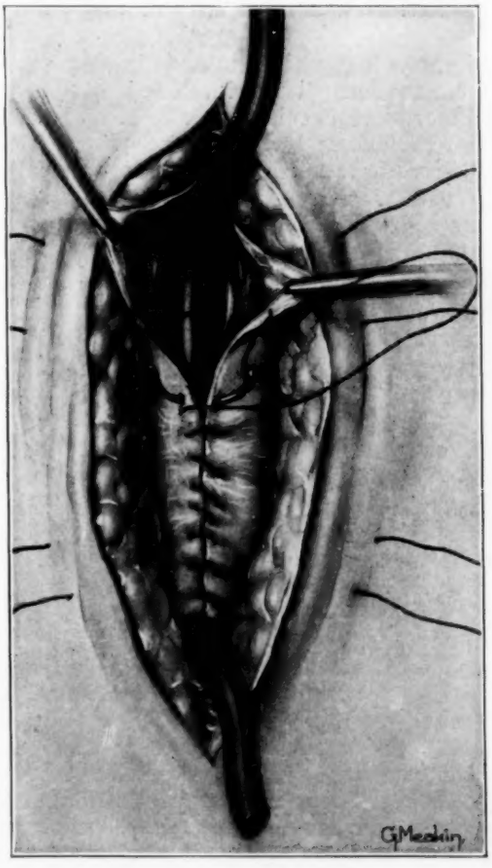

Fig. 6.—Drainage tube inserted underneath tension and suspension sutures; the fascia is closed over it.

of the tissues and prevents primary reunion. We have not seen any favorable results from the employment of radium needles, but frequently infection following their use has been observed.

The whole procedure is simple, practically bloodless, and of short duration. The primary mortality

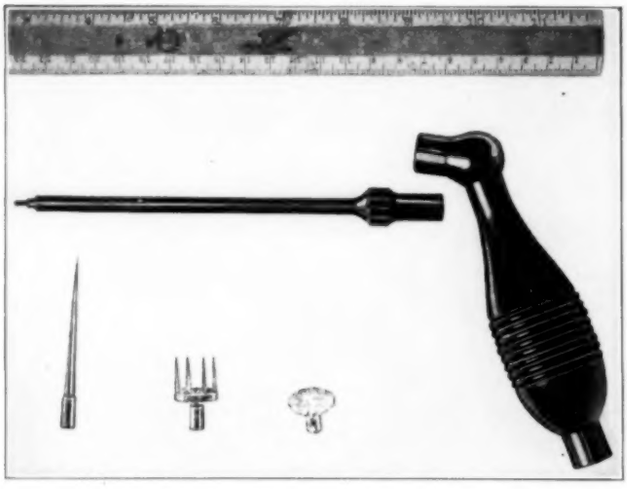

Fig. 7.—The multispiked, the monospiked and stamp shaped electrodes. The angular arrangement of the handle permits of the free manipulation within the bladder without obstruction of vision.

is considerably lower than that following resections or total extirpations of the bladder. The destruction of the tumor does not involve any reduction of the capacity of the bladder, which is one of the objectionable features of the cutting operation. The patient is not subjected to the dangers and misery of an abdominal drainage.

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AMEBIASIS OF THE BONES*

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Amebas in the lesions of Ely's[1] nonbacterial or second type of arthritis deformans were identified by us,[2] and the discovery announced coincidently with ourselves by Ely, Reed and Wyckoff.[3] Prior to this, we noted[4] the connection between infection by *Endameba dysenteriae* and bone rheumatism. Many instances of coincidence of amebiasis and a diagnosis of arthritis have come to light in the course of more than 15,000 stool examinations of more than 5,000 persons by us in the last four years. This note presents critical morphologic evidence of the identity of certain of the ameboid cells in the bone lesions of arthritis deformans of Ely's nonbacterial type with *Endameba dysenteriae* of human intestinal amebiasis.

Through the kindness of Dr. L. W. Ely of Stanford University Medical School, we have studied sections of his Case 187, which we have stained in iron hematoxylin. The material was fixed in formaldehyd, is well preserved, and retains a condition adequate, though not favorable, for cytologic examination after decalcification. We have found in this material ameboid cells which we interpret as *Endameba dysenteriae*. They occur in the head of the excised femur in the immediate neighborhood of the necrotic areas near the eburnated surface of the joint. These cells (Figs. 3-7) have vacuolated protoplasm, a few are filled with red blood corpuscles, or what appears to be their remnants, many have pseudopodia, in some instances of a hyaline ectoplasm, and all have a vesicular, spherical nucleus. This nucleus is of the type which characterizes *Endameba dysenteriae* in the cysts of the feces, and in the ulcers of intestinal amebiasis. The nucleus has a characteristically spherical shape. It is smaller (from 4 to 7 microns) than the less spherical nuclei of the surrounding human cells. Its chromatin is characteristically divided into two regions, a layer of peripheral chromatin applied uniformly, or it may be interruptedly to the inner face of the nuclear membrane, and a solid, spherical, usually centrally located karyosome. Immediately surrounding the karyosome a narrow clear halo may be found in some cases, but not in all our material. Between this karyosome and the peripheral zone is an intermediate clear zone which is usually traversed by a few more or less faintly stained spokelike radiations passing toward the karyosome from the peripheral zone. They may be obliterated by heavy destaining.

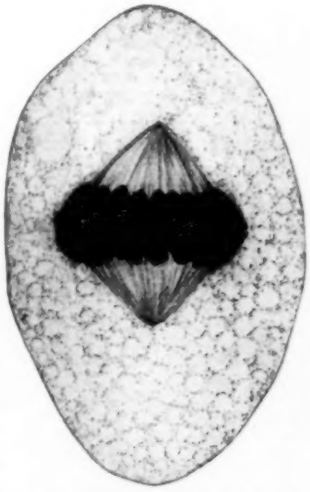

Fig. 1.—Lateral view of a small epithelioid (?) cell in the metaphase of mitosis from a hypertrophied cervical gland of man in Hodgkin's disease. Note the spindle fibers running from the centrosomes at the apexes to the massed, deeply stained chromosomes in the equatorial plate and the absence of nuclear membrane. From a section stained in iron hematoxylin; × 2,500.[5]

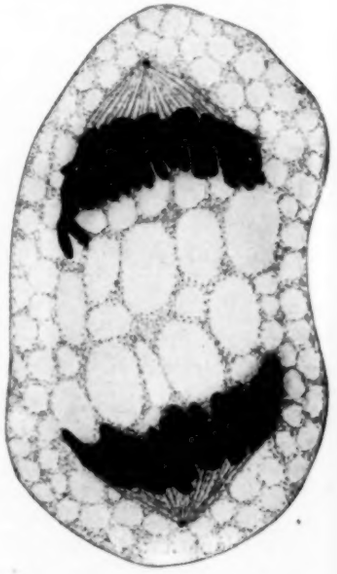

Fig. 2.—Lateral view of the anaphase of mitosis in a similar cell from the same source, × 2,500. The elongated, divided chromosomes retreat toward the poles of the spindle, and there is lateral constriction, indicating approaching separation of the two daughter cells. Only part of the chromosomes (about sixteen) of the cell have been drawn, because of the superposition of the deeply stained rods which form the chromosomes.[5]

These spokelike nuclei differ from those of the human plasma cells in their smaller size, more uniform sphericity, and in the fact that the chromatin blocks in

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* From the Zoological Laboratory, University of California, and Division of Parasitology, Bureau of Communicable Diseases, California State Board of Health.

1. Ely, L. W.: The Second Great Type of Chronic Arthritis: A Laboratory and Clinical Study, Arch. Surg. **1**: 158-183 (July) 1920.
2. Kofoid, C. A., and Swezy, Olive: On the Occurrence of Endamoeba Dysenteriae in the Bone Lesions in Arthritis Deformans, California State J. Med. **20**: 59, 1922.
3. Ely, L. W.; Reed, A. C., and Wyckoff, H. A.: The Amoeba as the Cause of the Second Great Type of Chronic Arthritis, California State J. Med. **20**: 59, 1922.
4. Kofoid, C. A.: Hookworm and Amoebiasis in California, California State J. Med. **18**: 329-332 (Sept.) 1920.
5. We are indebted to Dr. Doxey Wilson and Dr. Eastman of San Jose for the material from which these sections were made.

the plasma cells are larger, and less confined to the immediate periphery. It would be possible to mistake human cells with vesicular nuclei, especially in case of plasma cells and eosinophils, for amebas if one were limited in his criteria to the morphology of the resting nucleus. Fortunately, this limitation does not exist.

It is known that among animals the number of somatic chromosomes which appear in cell division is constant in normal somatic cells, and is characteristic of all individuals of the species. There are, however, instances in which the somatic or diploid equipment of chromosomes is replaced in certain individuals by double the customary number, giving rise to the tetraploid condition. There are also instances in which the diploid number in the male is one less than in the female of the species. The chromosome number, with these occasional modifications, is, however, a species characteristic, though different species may have the same diploid number. In addition to the criterion of chromosome number, there exists among nuclei another diagnostic feature of nuclear structure and behavior, namely, the type of mitosis or cell division. Within the Metazoa, or animal types above the Protozoa, there prevails a fairly uniform type of somatic mitosis. This (Figs. 1 and 2) is characterized (1) by the disappearance of the nuclear membrane during mitosis and (2) by the formation between the daughter centrosomes at the poles of the spindle of a type of connection known as the central spindle, or centrodesmose. This is an axial bundle of linin fibers which constitutes the only connection, if any exists or can be detected, between the daughter centrosomes. It is surrounded by the mantle fibers which run to the chromosomes in the equatorial plate.

Among the Protozoa, on the other hand, there exist several types of mitoses. One of these is prevalent among the Rhizopoda, the order to which the amebas belong. This type (Figs. 6 and 7) is characterized by (1) the persistence of the nuclear membrane during mitosis and (2) the formation of an intradesmose, a single, usually meridional strand, which stains rather deeply and is often applied to the inner face of the nuclear membrane. It joins the two daughter centrosomes at the poles of the spindle. These two types are so distinct in structure, and the latter is so restricted to the Rhizopoda, that they afford a morphologic diagnostic basis of critical and decisive value in evaluating the relationships of ameboid cells. One does not expect to find the rhizopod type of mitosis in human cells. Ameboid cells in human lesions with the rhizopod type of mitosis we may with confidence diagnose as amebas.

We have, accordingly, assiduously searched the sections of the excised femur from Ely's Case 187, with the result that in the territory in which the cells interpreted as amebas are found, we have discovered several binucleate amebas (Fig. 5), one with both nuclei in the early prophase of the next division. These indicate that binary fission of the amebas is in progress in the lesion. We have also found amebas with the usual single nucleus in the early prophase of division (Fig. 4), in the early (Fig. 6) and late (Fig. 7) anaphase and several telophases. A detailed study of these under the best optical conditions with the monobjective binocular microscope and high magnification has enabled us to analyze the type of mitosis and determine, within narrow limits, the number of chromosomes.

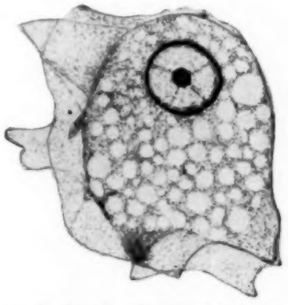

Fig. 3.—Endameba dysenteriae from lesions in bone marrow in the head of the femur in Ely's Case 187 of the second, nonbacillary type of arthritis. The spherical vesicular nucleus with peripheral chromatin, central karyosome, and spoke radiations may be noted.

Fig. 4.—Same with nucleus in prophase with peripheral chromatin in strands (chromosome?), some of them split.

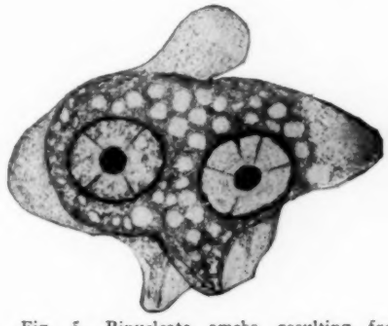

Fig. 5.—Binucleate ameba resulting from mitosis. Halo around central karyosome.

Fig. 6.—Endameba dysenteriae in early anaphase. The small number of chromosomes, probably six, the intact nuclear membrane and the intradesmose joining the centrosomes at the poles may be noted.

Fig. 7.—Late anaphase with distinct intradesmose. The magnification in all the illustrations is 2,500 diameters.

For purposes of comparison, we reproduce here drawings of two human endothelioid cells from a case of Hodgkin's disease (Figs. 1 and 2). These show a metaphase (Fig. 1) with the numerous chromosomes massed in an equatorial plate, and an anaphase (Fig. 2) with the divided chromosomes moving apart and the beginning of the constriction of the cytoplasm which will part the two daughter cells. The mode of division is the metazoan type in which the nuclear membrane has disappeared and there is no intradesmose, the centrodesmose presumably being in the axis of the spindle. Furthermore, the chromosomes are large, and their number is considerable.

When the dividing cells in the lesions of the bone which we interpret as amebas are compared with these dividing human cells, the differences are at once apparent. The nuclei of the amebas retain the intact nuclear membrane, within which in the anaphase (Fig. 6) the meridional intradesmose, a black line joining the two poles of the elongating nucleus in the illustration, is

applied to the inner surface of the nuclear membrane. Both of these features characterize this nucleus as one of the rhizopod type.

We have found[2] this type of division in *Councilmania lafleuri*, an ameba of the human digestive tract, in which the number of chromosomes is eight, and in *Endameba coli*,[6] in which the number of chromosomes is six. The same type is also found in *Endameba dysenteriae* in cysts in the feces (illustrated in Figures 1-3 in the following article). A report on mitosis in this will shortly be published. The type of mitosis is essentially similar in all three amebas, and as found in the amebas in the bone lesions is identical with that in the amebas of intestinal amebiasis in man.

There is an additional criterion of greatest critical value in the number of chromosomes revealed in the nucleus by the process of mitosis. The number of somatic chromosomes in man has been variously stated. It appears to be either twenty-four or forty-eight, possibly both in different individuals, the former being the diploid and the latter the tetraploid number. Owing to the crowding of the chromosomes in the human cells seen by us in the endothelioid cells in mitosis in Hodgkin's disease (Figs. 1 and 2), we are unable to count them. An estimate of this number in one quadrant is indicative of twenty-four rather than forty-eight. In any event, it is very much greater than in the cells we interpret as amebas. The number of chromosomes in these dividing amebas in the bone marrow is probably six, certainly not less than five or more than seven. In addition to the difference in number, the chromosomes of the dividing human cells are larger and proportionately longer.

On the basis of the type of mitosis and of the number of chromosomes in the cell, the ameboid organisms in the bone marrow are amebas rather than ameboid human cells. They appear in all respects to be normal amebas, and the mitosis to be normal in type. We find no structural evidences connecting them with any form of degenerating human cells in the lesions which we have examined. The inference to be made from this evidence is that the ameba may be the etiologic factor in Ely's second or nonbacterial type of arthritis deformans, and that this disease would then be amebiasis of the bone.

The question arises as to whether the ameba of the bone is that of the bowel (*Endameba dysenteriae*) or of the teeth and tonsils (*E. gingivalis*). The latter has a nucleus quite similar to that of the former, but appears to lack the radial spoke feature of the nucleus. The degree of decolorization of the stain has much to do with the appearance of the spokes in *E. dysenteriae*. The nucleus of the amebas of the bone lesions very often presents the spoke pattern. So far as this is critical morphologic evidence, we incline to the view that the ameba of the bone is *E. dysenteriae* rather than *E. gingivalis*. Coexistence of infection by *E. dysenteriae* and chronic arthritis has been high in our experience, but more data with accurate diagnosis of the type of arthritis are needed before any more than a purely tentative conclusion can be reached on this point.

6. Swezy, Olive: On Mitosis in Endamoeba Coli, Univ. California Pub. Zool., to be published.

Reminiscences.—It is reported that the number of convictions for drunkenness in London for the past nine years are: 1913, 64,783; 1914, 67,117; 1915, 51,372; 1916, 29,095; 1917, 16,567; 1918, 9,901; 1919, 20,674; 1920, 29,956, and 1921, 27,410.

OCCURRENCE OF ENDAMEBA DYSENTERIAE IN THE LESIONS OF HODGKIN'S DISEASE *

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AND
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In November, 1921, a patient (H. M. S.) with Hodgkin's disease came for treatment to Dr. Boyers. His previous experience with amebiasis in the Infirmary of the University of California and knowledge of the unknown etiology of the first named disease led him to submit stools from the patient to the collaborators in this investigation for examination. This patient, and a subsequent one (A. J. P.) secured by Dr. Boyers, revealed the coexistence of amebiasis and Hodgkin's disease. Specimens of the organs of Lincoln's case (1908) were later secured; and these, with a section from the cervical gland in Boyers' case forwarded by Dr. Major of Melbourne, Australia, have been examined by us. We also acknowledge material from cases diagnosed as Hodgkin's disease and supplied to us by Dr. Ophüls of Stanford University Medical School, San Francisco; from a case at San Jose, Calif., forwarded by Dr. Finley M. Eastman; from a case at Columbus, Ohio, forwarded by Dr. G. F. Lambright of Cleveland, and an inguinal gland and stool from a case at Helena, Montana, forwarded by Dr. L. A. Walker. This stool contained degenerate cysts of an intestinal ameba, among which one typical four-nucleate cyst of *Endameba dysenteriae* was detected.

Examination of sections of glands from these various cases has revealed certain ameboid cells with vesicular nuclei, of smaller size than most of the human nuclei and resembling closely the nucleus of *Endameba dysenteriae* in the active and encysted stage in the bowel.

Prior to the examination of the section from the inguinal gland of Walker's patient, we were unable to find critical evidence that these cells were parasitic amebas rather than human ameboid wandering cells of the connective tissue or a phase of some leukocyte. We therefore reported in our first note[1] merely the coexistence of amebiasis and Hodgkin's disease, and our detection in the lesions of certain ameboid cells resembling those found by Kofoid and Swezy[2] in the bone marrow in Ely's second type of arthritis.

The discovery of mitosis in the amebas in bone marrow in lesions of arthritis deformans, Type 2, described by Kofoid and Swezy in the preceding article, encouraged us to continue the search for amebas in the process of nuclear division in the lesions in the lymph glands of Hodgkin's disease, especially since the cells interpreted as parasitic amebas, but not in mitosis, in the bone marrow very closely resembled those under suspicion as parasites in the lymph glands. Prolonged and assiduous search revealed only cells suspiciously like amebas, sometimes staining atypically, and possibly degenerating. Our available material was from mod-

* From the Zoological Laboratory, University of California, and the Division of Parasitology, Bureau of Communicable Diseases, California State Board of Health.

1. Kofoid, C. A.; Swezy, Olive, and Boyers, L. M.: The Coexistence of Hodgkin's Disease and Amebiasis, J. A. M. A. **78**: 532 (Feb. 18) 1922.

2. Kofoid, C. A., and Swezy, Olive: On the Occurrence of Endamoeba Dysenteriae in the Bone Lesions in Arthritis Deformans, California State J. M. **20**: 59, 1922.

erately to well advanced stages of the disease. It seemed desirable to get glands in early stages of hypertrophy. It was not, however, until the material from the inguinal gland of Walker's patient, in what appears to be an early phase of invasion of the gland, was available, that we were able to find amebas in mitosis. Since our criteria come from this case, the clinical history of the case, necropsy report, and a brief statement of the pathologic findings in the excised gland are given. A summary of the history, laboratory findings, and necropsy surgeon's report has fortunately reached us by wire in time to be incorporated in this article.

The family and previous personal history were negative. The present illness began in February, 1919, with a swelling in the right cervical region. This remained the same size for two or three months. In the next few months the left cervical region became involved, and both cervical areas of swelling increased in size. They remained at this stage until July, 1921, when they increased greatly in size for one month, and then receded somewhat. In July, 1921, the axillary glands also became involved. By September, 1921, there was much hypertrophy, and a sinus was present in the right axilla. In October, 1921, an inguinal gland became involved, and in that month mediastinal involvement was demonstrated by observation and also by roentgen-ray examination.

Blood examination in October, 1921, revealed: hemoglobin, 90 per cent.; leukocytes, 15,600; neutrophils, 82 per cent.; eosinophils, 1.5 per cent. In December, 1921, the hemoglobin estimation was 66 per cent.; the leukocyte count, 13,000, and the neutrophils, 78 per cent. The urinary findings were normal. The blood Wassermann reaction was negative. In January, 1922, and in March, 1922, localized pneumonia and lung abscess developed. The patient died, April 8, 1922.

At necropsy there was marked emaciation. There was involvement of the superficial glands, and the mediastinal and superficial glands were adherent to the sternum, as was also a hard, tumor-like formation. The lungs were entirely adherent. In the right lung there was a large cavity, containing pus. The right upper lobe was necrosed in part, and the right lower lobe showed thickened areas, friable in character, and exuding pus. The upper left lobe resembled the right. The posterior mediastinal glands were markedly enlarged, the pericardium thickened, and the heart adherent. In the abdomen there was a small amount of fluid. The mesenteric glands were uniformly hypertrophied. The spleen weighed 550 gm., was dark red, firm, and cut with a gritty sensation. It contained several whitish areas.

The liver had several small, glandlike structures adhering to its capsule. It gave a gritty sensation on being incised, and showed several small necrotic areas.

The sections from the inguinal lymph gland are roughly 5 by 25 mm. and 8 by 25 mm., and were stained with iron hematoxylin. Grossly, the tissue appears to be heterogeneous in structure, showing deeply staining islands that are separated and surrounded by strands of connective tissue. These strands vary in different portions from delicate reticular tissue to frank bands of scar tissue. The capsule of the gland is thickened.

Microscopically, the follicular structure has been largely lost and the lymph spaces are filled in, in part. The darkly staining islands are composed of cellular elements of great diversity in character, comprising very occasional multinuclear giant cells with syncytial cytoplasm, the type of the foreign-body giant cell, large numbers of small lymphocytes and endothelioid cells, and small numbers of large lymphocytes, plasma cells, polymorphonuclear leukocytes and eosinophils. The sections are rich in mitotic figures.

The cells which we interpret as *Endameba dysenteriae* have been found at times nested by connective tissue, then again often in the most cellular portions of the section. Several have been located adjacent to blood vessels.

The section came to us diagnosed as Hodgkin's disease. In checking up on the diagnosis, two sections were submitted to Dr. G. Y. Rusk of the University of California Medical School and were diagnosed as showing a "chronic inflammatory process."

Fig. 1.—Binucleate cyst of Endameba coli from human stool showing empty glycogen vacuole, splinter-like chromatoidal bodies, and two nuclei in metaphase and early anaphase with six chromosomes (twelve in the anaphase), polar centrosomes connected by the intradesmose.

Fig. 2.—Binucleate cyst of Endameba dysenteriae from human stool with rodlike chromatoidal bodies, two nuclei in early anaphase, with small number of chromosomes (from five to seven), probably six.

Fig. 3.—Binucleate cyst of Councilmania lafleuri from human stool with empty glycogen vacuole; chiplike chromatoidal bodies, two nuclei in early anaphase, with the eight chromosomes divided to sixteen, and intradesmose in lateral and median locations. All magnifications, 2,500 diameters.

At the same time two sections were submitted to Drs. William Ophüls and Jean Oliver of the Stanford University Medical School, and were diagnosed as Hodgkin's disease.

The basis on which one may diagnose the presence of parasitic *Endameba dysenteriae* in the lesions of Hodgkin's disease by morphologic standards are restricted to the structure of the cytoplasm and nucleus. A trustworthy differential stain is unknown. The ameboid form of the cytoplasm is unsatisfactory and uncritical, since the structure of the wandering ameboid connective tissue cells, of the endothelioid cells, and of the plasma cells verges on the ameboid type. The nucleus is somewhat more distinctive, since that of *Endameba dysenteriae* is characterized by a spherical form, peripheral chromatin applied as a more or less interrupted layer on the inner face of the nuclear membrane, and a solid, spherical, central karyosome. Between the central karyosome and the peripheral chromatin is an intermediate zone free from any considerable amount of chromatin. The human cells, on the other hand, have larger nuclei in most cases, their shape is less frequently spherical, and their chromatin is broken up into rather coarser granules, not restricted to the membrane, but more or less distributed through-

out the nucleus. A central karyosome is generally lacking, though many of the endothelioid and plasma cells exhibit a chromatin granule which is sometimes central in location. Likewise the eosinophil cells often have several small spherical nuclei from 2.5 to 3 microns in diameter, with a central karyosome and chromatin-laden nuclear membrane. These cells are clearly not amebas; but the presence of nuclei approximating those of amebas in them tends to make one hesitate to call any cell in these hypertrophied tissues an ameba on the basis of nuclear structure in the resting stage, since we do not know how far pathologic modifications of tissue elements might induce a similarity on the part of human nuclei to those of amebas.

While we can only surmise that the cells we have just described are probably amebas because of their structural resemblances, we have available a diagnostic feature of the highest critical value which enables us to determine with a high degree of certainty the status of certain ameboid cells as true parasitic amebas, and presumably *Endameba dysenteriae*. This criterion is the structure of the nucleus at mitosis.

Fortunately we (Kofoid and Swezy) have in hand investigations of the mitotic process in three of the common amebas of man, as yet largely unpublished. We have been able to determine the behavior of the chromatin, nuclear membrane, and centrosome during mitosis in the cysts of *Endameba coli*, of *E. dysenteriae*, and of a new ameba of man, *Councilmania lafleuri*.[3] We have also found that the number of chromosomes in *E. coli* is six and in *C. lafleuri* is eight. The number of these structures in *E. dysenteriae* is as yet not certainly known to us, but we have sufficient data to indicate definitely that its number is small, and probably not more than six.

In Figures 1, 2 and 3, we portray cysts of *E. coli*, *E. dysenteriae* and *Councilmania lafleuri*, with nuclei in mitosis. Certain structural features of the mitotic process are common to the three. These are also to be found in mitosis of certain free-living amebas of the soil and of water, and are to be regarded as rather fundamentally characteristic of rhizopod, or at least of amebic mitosis. These features are (1) the persistence of the nuclear membrane as an intact envelop throughout mitosis, and (2) the presence within the nucleus in a meridional position of a deeply staining thread, the intradesmose, applied to the inner surface of the nuclear membrane and joining the two very large stained masses, containing the daughter centrosomes at the poles of the dividing nucleus. Neither of these features is present in dividing human cells. In them the nuclear membrane entirely disappears during cell division, and the small centrosomes at the poles of the spindle are joined by an axial bundle of linin spindle fibers, the centrodesmose. There is no possibility of confusing cells having these two widely divergent types of mitosis.

A third marked difference between the human cell and the ameba is found in the number of chromosomes which may be counted or approximately estimated at the metaphase of the mitosis, and sometimes during the prophase, when the chromatin material is arranged in a definite number of chromosomes.

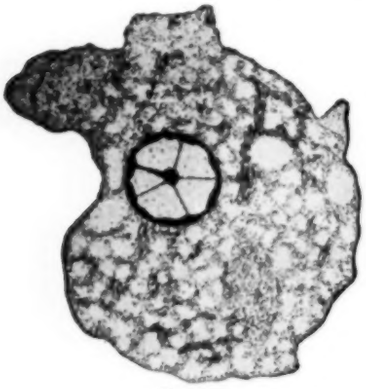

Figure 4

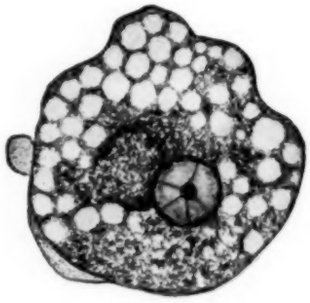

Figure 5

Figure 6

Figs. 4, 5 and 6.—Endameba dysenteriae in the active state with pseudopodia, spherical, vesicular nucleus with peripheral chromatin, central karyosome and spoke radiations; × 2,500.

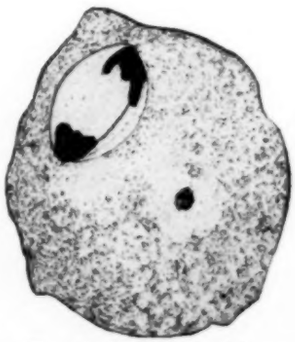

Fig. 7.—An ameba with nucleus in the telophase of cell division, with intact nuclear membrane, and a few (probably not more than six) chromosomes at either pole. The intradesmose is the black line connecting the two masses of chromosomes. It presumably connects the centrosomes at the apexes of the nucleus; × 2,500. All drawings from amebas in sections of inguinal glands from a patient with Hodgkin's disease, stained in iron hematoxylin. We are indebted to Dr. L. A. Walker, Helena, Mont., for this gland.

The diploid or somatic number of chromosomes in man has been variously determined. Guyer [4] reports twenty-two, Montgomery [5] and Wieman [6] find twenty-four, while von Winiwarter [7] reports forty-seven in man, and Evans,[8] forty-eight. It is possible that sex differences exist in human chromosome numbers, and that the number in man is forty-seven or twenty-three, and in woman, forty-eight or twenty-four. It is also possible that both forty-eight and twenty-four are correctly determined. Similar instances of two chromosome numbers within the single species have been brought to light elsewhere by cytologists, the one (diploid) twice the other (tetra-

3. Kofoid, C. A., and Swezy, Olive: On the Free, Encysted and Budding Stages of Councilmania Lafleuri, a Parasitic Amoeba of the Human Intestine, Univ. California Pub. Zool. **20**: 169-198, 1921.

4. Guyer, M. F.: Accessory Chromosomes in Man, Biol. Bull. **19**: 219-234, 1910; Science **39**: 721-722, 941-942, 1914.

5. Montgomery, T. H.: Human Spermatogenesis, Spermatocytes and Spermiogenesis: A Study of Inheritance, J. Acad. Nat. Sc. Philadelphia **15**:1-22, 1912.

6. Wieman, H. L.: The Chromosomes of Human Spermatocytes, Am. J. Anat. **21**: 1-22, 1917.

7. Von Winiwarter, H.: Etudes sur la spermatogenese humaine, I, Cellule de Sertoli; II, Heterochromosome et mitoses de l'epithelium seminal, Arch. d. Biol. **27**: 91-189, 1912.

8. Evans, H. M.: Unpublished work cited by Babcock, E. B., and Clausen, R. E.: Genetics in Relation to Agriculture, New York, McGraw-Hill Book Company, 1918, p. 538; Unpublished work cited by Sharp, L. W.: An Introduction to Cytology, New York, McGraw-Hill Book Company, 1921, p. 362.

ploid). If this holds true in man, forty-eight is the tetraploid state. In any event, the number of chromosomes in the human cell (twenty-four or forty-eight) is much greater than that in the ameba. It is three or four, or it may be six or eight times as great as the numbers thus far determined in human amebas (six or eight). There is therefore little conceivable possibility of confusing a human cell with an ameba or vice versa at mitosis if the number of chromosomes can be counted or even approximately estimated.

After prolonged search of carefully stained sections of lymph glands from several cases of Hodgkin's disease with the high power binocular monobjective microscope, we have succeeded in finding a number of human cells in division (Figs. 1 and 2 of the previous article) and several cases of mitosis in the type of cell (Figs. 4-7) interpreted by us as a probable ameba. The chromosomes of the human cell are large, measuring, in the anaphase in the cells illustrated (Figs. 1 and 2 of the previous article), from 3 to 5 microns in length, and from five to seven times as long as wide. It was not possible in these cells to count the number of chromosomes with certainty. There are certainly not less than twenty-four in each of the parting equatorial plates of divided chromosomes (Fig. 2) destined for each daughter cell.

It is also evident that these human cells are devoid of a nuclear membrane at mitosis, and have no trace of an intradesmose joining the centrosomes. The cones of spindle fibers are very prominent, terminating in the polar centrosomes.

When one compares these cells with the dividing ameba (Fig. 7), the contrast is striking. The nucleus is smaller in the ameba, its nuclear membrane is intact, there is an intradesmose joining the centrosomes, and the total chromatin material which lies within the nuclear membrane is very much less in amount than in the human cells.

The numerical contrast in the number of chromosomes between the human cells and the amebas is apparent and striking. Their exact number is difficult to count with certainty on account of their minuteness. It is probably six, and certainly not more than seven or eight. Their size, moreover, is only from 1 to 1.5 microns in length, and they are proportionately shorter and stouter than are the human chromosomes.

It will be difficult to find morphologic evidence of more critical nature than that of the types of mitosis, and the chromosome numbers here presented for the distinctions between human cells and supposed parasitic amebas. In our opinion, the evidence here presented is conclusive on morphologic lines. It suggests the desirability of further investigation along experimental and therapeutic lines to establish the conclusion that Hodgkin's disease is amebiasis of the lymphatic system.

In the event of search by clinicians for cysts in the stools in cases of Hodgkin's disease, it is very important to continue the search, in the event of negative results, in stools for six consecutive days, or even much longer, and to search stained smears systematically. In our experience, cysts, especially of the smaller race, from 7 to 9 microns in diameter, or sometimes smaller, are brought to light sometimes by assiduous and repeated stool examinations. The detection of the amebas in the glands has been made when the hypertrophy was as yet slight, and also requires assiduous and systematic search.

THE DIAGNOSIS, PROGNOSIS AND EARLY TREATMENT OF POLIOMYELITIS *

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The diagnosis and early treatment of poliomyelitis is of great importance to the profession in general, because with the general practitioner rest many factors which influence the ultimate function and usefulness of the patient. The conclusions which will be presented are based on a study of 5,100 cases of poliomyelitis for the care of which the writer has been responsible since 1916. Of these, 1,836 were in New York State, 2,159 in Massachusetts, 610 in Vermont, and 500 in private practice.

DIAGNOSIS

Diagnosis belongs primarily to the neurologist, the pediatrician and the medical practitioner, rather than to the surgeon; but so many cases seen by the surgeon in the later stages require a review of the whole question of early history and diagnosis that he too must be familiar with the early conditions.

It is common knowledge that many cases of poliomyelitis are overlooked in the early stages, being incorrectly diagnosed as all sorts of febrile affections, and the diagnosis cleared up only after the paralysis develops. This should happen much less often than it does, and the physician is wise who, in late summer, is suspicious of every ailing child, especially those near an epidemic center.

Laboratory diagnosis can be made in the early stages by spinal tapping. The fluid in the acute stage of the disease is clear and colorless, and does not show great increase of pressure. In the first week there is an increase in the cells, due to mononuclear cells of various types, of which the lymphocytic is the most common. The cells may increase to as many as from 1,000 to 2,000 per cubic millimeter. The globulin reaction, weak at first, increases to its maximum in the third week. The only difficulty in the laboratory diagnosis is between poliomyelitis and tuberculous meningitis, in both of which the characteristics of the spinal fluid are much alike, errors being occasionally made even by experts. Facilities, however, for making a laboratory diagnosis promptly are not always at hand, and one comes to rely in the main on making the diagnosis from clinical symptoms.

This diagnosis cannot be made from the history, and many errors have been made because too much reliance was placed on the history. It must be remembered that typical cases may occasionally occur without any manifestations whatever of systemic disturbance in the way of fever, malaise or respiratory or digestive disturbance. The disease at times follows other illnesses. I have seen a number of cases in which poliomyelitis followed typhoid fever, trauma, confinement, chill and infectious diseases, and in four instances it occurred after fracture of the arm, while the arm was in a splint, and consequently the paralysis not recognized until the splint was removed. It must be remembered, however, that trauma can no more cause poliomyelitis than it can cause scarlet fever. Poliomyelitis may also occur in cases in which the patients have previously had cere-

* Read before the Birmingham Clinical Club, Birmingham, Ala, Feb. 20, 1922.

bral spastic paralysis, while still other cases have been seen in which the most extraordinary combinations existed, such as an obstetric paralysis existing in the arm, and a poliomyelitis in the leg. In these combinations it becomes an exceedingly difficult matter to disentangle the symptoms, and in such cases the history is again often valueless.

The history of the onset, in general, is that of a febrile attack, sometimes of great violence, sometimes very mild, at times having its chief manifestation in the respiratory tract, and at other times in the gastro-intestinal canal, during which attack, or shortly after, it is found that motion has been lost in one or more limbs.

A moderate or high fever occurring suddenly, without known cause and accompanied by symptoms in the gastro-intestinal or respiratory tracts, is suspicious, particularly between June and November. The most suspicious symptom of all is stiffness at the back of the neck in attempts to flex the head; but there is nothing really characteristic about the attack. Tenderness of the parts to be affected occurs early, and may be excessive. The attack is occasionally preceded by queer sensations in the parts to be affected, such as prickling or numbness. Paralysis, as a rule, occurs in from one or two hours up to three or four days of the beginning of the attack, and takes the form of a motor paralysis of erratic distribution, but most often roughly symmetrical. It affects the lower extremities more often than the upper and is in practically all cases accompanied by marked tenderness, sensitiveness, and even pain in the affected parts.

One cannot speak too emphatically of the danger of overlooking the real character of the disease in its early stages because this error is frequently made, and is one which the family find very difficult to understand or excuse. Of the incorrect diagnoses, rheumatism, typhoid fever, cerebrospinal meningitis, cerebral hemorrhage and febricula are the most common. It is impossible to speak too often of the tenderness, which, until recently, has not in general been rated as an important symptom, but which should at once arouse suspicion.

After the first days the diagnosis is, as a rule, only too obvious to those familiar with the fundamentals of the affection, but even here many diagnoses are missed. Although the problem at times may be exceedingly complex, taxing the skill of the most experienced man, as a rule it is perfectly simple if the pathology of the affection is kept in mind. The initial change occurs around the blood vessels of the spinal cord, where a marked infiltration takes place, shutting off their supply of blood. Anemia or necrosis of the anterior horn cells may result. In addition, there are always punctate hemorrhages and some edema, but, practically the whole effects of the condition are localized in the motor cells of the anterior horns of the spinal cord. The result of this, it is easy to see, must be a loss of power in the muscles supplied by the cells in question. The distribution will not be along regular nerve trunks because the damage occurs higher up, above the point at which the nerve trunks form. That is to say, the paralysis is not limited to muscles supplied by one nerve trunk, such as the ulnar or peroneal nerve, but is scattered over the muscles supplied by several nerves. Partial paralysis is more frequent than total if one takes into account all the muscles of the limb. There is no loss of sensation because the cells in the posterior horns are not involved in the process and reflexes are lowered in the parts involved.

The resulting symptoms, therefore, will necessarily be (1) a scattered, irregular, widely spread loss of motor power on one or both sides; (2) no diminution of sensation in affected parts, and (3) diminution or loss of reflexes in the parts affected.

If the physician who is called in a doubtful case will only bear these factors in mind, he will be saved embarrassment. There is no other widely distributed lesion which picks out motion alone and leaves sensation untouched, along with a loss of reflexes. In young children the diagnosis is especially difficult to make, particularly in slight cases, since it is hard to get any cooperation from the patient, and the test for loss of sensation is inaccurate.

When it comes to recognizing the disease in the presence of other affections, as one may have to do, the problem may be exceedingly difficult. Again, attention is called to the error of laying too much stress on the history, and too little on the objective signs. If the physician will merely go back to his medical school training and recall what a lesion of the anterior horn cells can do and what it cannot do, the diagnosis will be much simplified. The absence of an acute attack is of no importance whatever if the characteristic signs are present. Our sheet anchor is the fact that only a lesion of the anterior horn cells produces the especial symptom group mentioned above. This is the cardinal feature in the diagnosis.

PROGNOSIS

A word may be said about the early prognosis, but the physician will be wise if in the early stages he talks as little as possible. In general, a violent, severe attack is more likely to be followed by a moderate or severe paralysis than is a light attack. The increase of the paralysis for several days after its onset is a bad prognostic symptom. The long continued persistence of the tenderness is, on the whole, a characteristic of the severer cases, and the average duration of the tenderness is about six weeks. A rapid disappearance of tenderness is favorable.

Apparently, about 25 per cent. of patients affected in the average epidemic completely recover. All patients who live through the acute attack improve, and the involvement of all the extremities in the initial paralysis does not necessarily mean that complete recovery may not take place. Death, when it occurs, is almost always due to respiratory paralysis, and the prognosis as to life is less hopeful in adults than in children, and for this reason paralysis of the upper half of the body has a much more unfavorable prognosis as to life than paralysis of the lower half. Paralysis of the bladder frequently occurs, especially when the zone of the paralysis is a girdle-shaped one in the region of the pelvis. In my experience, this has always been recovered from, and it is not necessarily an index of a bad case. Apart from these few landmarks there is really nothing to guide one as to what the ultimate outcome will be; yet this question is asked with great frequency from the day that the diagnosis is made. Parents of every patient who lives through the acute attack may be assured that improvement will begin as soon as the tenderness disappears; but how far that improvement will go, no one can say. It may progress to complete recovery, but it is more likely to go only part way toward it.

Any patient with average intelligence, no matter how severely paralyzed, whose arms are good enough to hold a pair of crutches, and whose deformities, if

present, have been removed by operation or other means, can be made to walk and to engage in the active pursuits of life. The only really hopeless cases are those in which there is permanent paralysis of both arms and both legs. In a fairly extended experience, I have never seen more than two or three patients who could not be made to walk in some manner.

TREATMENT

Of all the progress that has been made in the treatment of poliomyelitis, nowhere have the methods made such advance as in the treatment of the early stages, and this advance has consisted largely in stopping the former meddlesome therapeutics, and in realizing that a hemorrhagic myelitis has occurred in the spinal cord, that the damage is done almost at once, and that the future outcome will depend on two things, and two things alone: (1) the extent and location of the damage, and (2) the judicious treatment of the patient, particularly in the early stages.

We have learned that drugs are of no value. Hexamethylenamin has been shown experimentally to retard or avert the infection of monkeys who have received it prior to infection, but there is no evidence to show that it is of any value after infection has occurred. At the same time, it does no harm. Strychnin, ergot, bromid, etc., are obviously not likely to be of use in so grave an affair. As soon as the diagnosis is made, the patient should be kept perfectly quiet, not only physically but also mentally, because modern pathology shows that in every case there is some involvement of the cerebral meninges.

The use of blood serum of recovered patients administered intravenously or intraspinally, and the use of Rosenow's serum in the earliest possible stage, have been advocated, and both are regarded by competent men with enthusiasm on the one hand and with skepticism on the other. This method of treatment cannot as yet be regarded as being of established usefulness, but it is apparently harmless. Electricity, massage and any attempt to move the paralyzed limbs should be condemned at this stage. A child in my service, a year ago, in the third week of the disease, having a paralysis of both legs, was making good headway, and the tenderness was rapidly improving. An enthusiastic young physician, who was asked to examine the child and do nothing else, had a theory that an attempt should be made early in the disease to drive impulses through the affected region, and he sat by this child and encouraged her to move the toes for a few minutes. He was greatly pleased to find that as he urged her to do this she seemed to gain a little more power for the time being. Within twenty-four hours this child became acutely sensitive, and had a rather serious set-back in the leg observed. A patient in Vermont was reported as having had an acute attack of infantile paralysis, and word was sent to keep the child absolutely quiet until sensitiveness had disappeared. A masseur, however, took charge of the case, called attention to the danger and futility of waiting, and started on fairly vigorous massage. At the end of a very short time the patient required large doses of morphin to quiet the great suffering which was caused, and the family was then willing to wait as directed. This point cannot be too strongly insisted on—that rest, so long as tenderness is present, is the cardinal indication in the treatment.

If the knees can be straightened and the feet held at a right angle, it is better that they should be so held by light foot splints, although plaster of Paris may be necessary; but plaster of Paris causes so much atrophy that it seems better to get along without it if possible. If extreme tenderness is present, the patient should be allowed to lie in the position which is most comfortable, because any attempt to secure a correct position in the presence of tenderness will result in prolongation of the latter and presumably an aggravation of the local condition. In case of extreme sensitiveness the patient should lie on a frame, well padded to support the entire body and to prevent movement, but it is unwise to attempt to secure correct positions at the expense of discomfort. One occasionally has to let such patients lie for weeks with the knees drawn up, hips flexed and toes dropped until the sensitiveness has subsided sufficiently to allow correction. To attempt correction under anesthesia at this stage is to cause great suffering and retard recovery. In this delay there is no danger of ankylosis, there is no danger of serious or irremediable muscular atrophy, and in certain cases in which the patients lived in foreign countries where immediate treatment has not been available, complete rest over a period of months has done no harm; in fact, when the patients have come for treatment, progress has been unusually rapid.

When the tenderness is diminishing, generally from the second to the fourth week, much comfort and apparent benefit are derived from immersing the patient in a hot saline bath and allowing him to move his joints a little and change his position. This may be repeated daily, and apparently aids in hastening the disappearance of the tenderness. Tenderness is also diminished by daily heating the tender areas for a few minutes by the use of electric light, which treatment is generally followed by a feeling of comfort. If it should increase the tenderness it is evident that it has been used too early. It is generally not wise to use it before the second week. Frequent or extended examinations of the patient during the tender stage are to be avoided, as they yield imperfect results and are detrimental to the patient. Any estimate of the degree or extent of the paralysis is unreliable so long as any tenderness exists.

With regard to sitting up, if there has been any impairment of respiration due to involvement of the muscles of the thorax, it is not wise to let the patients lie too long on the back. The inability to cough audibly is a sign of importance and points to respiratory involvement, and such patients occasionally die from respiratory complications in from one to two months after the attack. These patients should be guarded very carefully against anything that would induce respiratory complications, and exposure to cold air is questionable in such cases; otherwise fresh air is desirable.

As a rule, four weeks after the attack, the tenderness has become very much less, and it is generally wise to let the patient sit up in a chair as soon as the tenderness has markedly diminished. If there is any involvement of the abdominal muscles—and this is very common, occurring in something over 70 per cent. of all cases—an abdominal corset should be applied before sitting up is allowed. This is most important, as the outlook for recovery in the abdominal muscles is poor, abdominal paralysis being more frequently permanent than paralysis in any other muscle in the body, except in the lower leg.

Finally, a condition which is often overlooked is that of general sepsis induced by the infection. Many of the cases in the late stages of the acute phase present

much the same general condition that would be found in a child who had had very severe infection in the form of scarlet fever or diphtheria. In such cases it is very desirable to look after the general condition and to encourage fresh air and forced feeding. A period of mental instability and nervous irritability is likely to occur in adolescents and older persons toward the end of the acute phase. With the disappearance of tenderness, the acute phase may be assumed to have ended and measures are next to be considered for the convalescent phase.

CONVALESCENT PHASE

The question of operation is not to be discussed until a good many months, at least, after the attack. Former tradition set the period at least two or three years from the acute attack; but, with a closer study of the affection and the more careful anatomic diagnosis now made, it is often possible to operate successfully before this period, if operation is necessary.

In starting on the convalescent phase it is desirable to take account of stock, make an accurate anatomic diagnosis, and forecast in a general way the course of treatment. This consideration should deal with certain aspects of the case:

It is important that every muscle in both arms, both legs, the back, the neck and the abdomen should be examined and its condition ascertained with a view to determining the location of the most serious impairment. For modern treatment, this is absolutely essential. For those who are not skilled in the usual methods employed in such examination, which consists in putting the limb in such a position that leverage, or the weight of the limb, is eliminated in examination so that low grades of power may be found, examination may be made with the patient immersed in a strong saline bath, in which the weight of the limbs is negatived and low degrees of power can be detected in all the muscles where it exists. The most helpful examination is to discover what muscles can be voluntarily contracted by the patient under favorable conditions of leverage, as, for instance, in the hot saline bath, and an electrical examination at this stage gives much less reliable information.

The three physical therapeutic measures which should be considered are electricity, massage and muscle training or reeducation.

Electricity has been much in vogue in the treatment of these cases in the past, and is to a large extent used at present. In moderate doses it probably does no harm, except to induce the parents to believe that effective therapeutic measures are being used, whereas there is little if any evidence to show that the routine measures employed, generally the use of the galvanic current, are of any value whatever in increasing muscular strength. The use of faradism, though causing a contraction of the muscles, is very uncomfortable to children. The painful element, however, is much diminished by the use of the Smart Bristow coil, which is faradism used in conjunction with a condenser. This coil was of much use during the war, and may be regarded as a mild form of exercise to muscles. The weak point about it is that it is difficult to confine the treatment to any one muscle, for the current spreads.

Massage improves the circulation, tends to keep up the muscular tone, probably diminishes atrophy, and is a measure of value if properly given after tenderness has wholly disappeared. Heavy massage causes muscular wasting; long continued or too heavy massage is likely to depreciate muscular power, and massage cannot, at any rate, be regarded as restoring muscular power. It is simply a measure to improve the nutrition, circulation and muscle tone of the affected limb.

Muscle training forms the basis of the modern treatment of poliomyelitis. In theory it consists of an attempt to make the patient send a voluntary impulse to contract a muscle, and of aiding the muscle in contraction by passive movement by placing the limb in such a position that gravity aids in performing the movement, and by the assistance of the hand.

There is one very important point in this connection that is often lost sight of. In an affected limb some muscles are as a rule paralyzed, some weakened, and some comparatively normal. The muscles that we wish to exercise are the muscles that are paralyzed or weakened. If the exercises are not carefully controlled and located, the patient is sure to use the strong muscles instead of the weak ones, to develop these, and thus to make the muscular balance still worse. Loosely given exercises by untrained persons, and encouragement to the child to keep around and do anything he can, are likely to do harm rather than good. Exercises should be given daily, and for them to be effective they must be given by a person who understands not only the theory but also the technic. Exercises given without proper control along the lines mentioned will probably do more harm than good.

Until recently, it has been the custom to encourage patients with weakened muscles to use them in walking, and to promote activity in every possible way with a view to developing the muscles; but this was done under a false conception, forgetting the physiologic fact that the overuse of a muscle is probably worse than its disuse. Let us assume that many of the leg muscles in a child in middle childhood have been reduced to 20 per cent. of their normal power. If that child is encouraged to walk, it is obvious that he is carrying a considerable amount of weight with muscles no stronger than those of a very young child, and that overuse of a gross sort is likely to be induced by walking and weight-bearing.

That this consideration is not wholly a theoretical one is shown by an analysis of the 1,836 New York State cases reported in 1917. These figures show that weight-bearing exercise, such as walking to any extent in the first year after infantile paralysis, is apparently attended with risk and is followed in many instances by a change from partial to total paralysis. In this group a set of recent cases was investigated, affecting the leg and foot, and the ratio of total to partial paralysis was as 1: 2.5. In the same series a group of cases was analyzed in which paralysis had lasted for several years. Walking had been encouraged, in most of these cases from the outset, under the old method of treatment, and in these cases the ratio between total and partial paralysis was as 1: 1.5, or nearly twice as great as in the recent cases. In the leg and foot, therefore, the proportion of total to partial paralysis was very much higher in the old than in the recent cases. That is to say, under conditions of weight-bearing, the partial paralysis is likely to change to total paralysis in connection with weight-bearing. This is not the case in the upper extremity, in which the ratio between total and partial paralysis was the same in the old as in the new cases.

The conclusion that one may draw, therefore, is that weight-bearing by one or both legs, with or without

braces, in the first year following infantile paralysis, is risky and detrimental if practiced to any considerable extent.

Deformity may occur in the early weeks, and is a detrimental factor in preventing the recovery of muscles partly paralyzed, chiefly from stretching. It becomes a troublesome factor, especially in the third year, and should be watched for and antagonized from the outset, but not at the expense of lighting up the tenderness. The common and troublesome deformities are flexion contraction of the hips, adduction contraction of the shoulders, flexion of the knees, plantar flexion of the feet, and scoliosis. As deformity is most often the result of the pull of unopposed muscles, its treatment consists of the retention of the limb in its normal position and in abduction of the shoulder. The great majority of deformities can be prevented in this way.

The question of apparatus and operation belongs to a special field of surgery, and, having been adequately discussed in current literature, will not be considered here.

CONCLUSION

No summary of this paper can be given, as it is at best only a summary of a large field. The important points are that the diagnosis must not be made on the history, but on the physical examination; that tenderness is a guide of great importance in diagnosis, prognosis and treatment; that early treatment consists of rest, and that, in the convalescent phase, muscle fatigue is our chief danger and muscle reeducation our chief reliance, and that deformities prevent proper function and promote muscular deterioration.

If these points are borne in mind, many patients can be spared much unnecessary deformity and disability, and we shall be able to take a much more hopeful view of the outcome of poliomyelitis.

234 Malborough Street.

TREATMENT OF HYPEREMESIS GRAVIDARUM BY THE DUODENAL TUBE

CHARLES E. PADDOCK, M.D.
CHICAGO

During the initial stages of pregnancy, vomiting is not uncommon. But during its period a patient, in spite of the vomiting, is able generally to retain enough food and water to keep her weight comparatively normal. After three months of pregnancy, these gastric disturbances nearly always cease.

Occasionally, however, we find cases in which, regardless of treatment, the vomiting persists. A woman suffering from this trouble continues to vomit, almost to the starvation point. Heretofore, in such cases, we have thought it necessary to empty the uterus.

To the three cases of hyperemesis gravidarum, or excessive vomiting, treated successfully by the use of the tube, which I have recently reported, I will add another:

REPORT OF CASE

History.—Three weeks after the cessation of the menstrual period, a woman, aged 24, began to have gastric disturbances. A morning sickness quickly developed into severe vomiting, which stubbornly continued. After several weeks of treatment by proctoclysis and feeding by the rectum, as the vomiting could not be controlled, Dr. N. C. Gilbert was called. He made a diagnosis of pregnancy, and removed the patient to St. Luke's Hospital.

The condition of the woman on entering the hospital, March 4, 1922, was alarming. She was exhausted, her skin was hot and dry, her lips were parched, and the vomiting, containing blood, was almost continuous. Her temperature was 99, the pulse from 136 to 150, the respiration 24, and the blood pressure 118 systolic and 68 diastolic. March 5, I saw the patient with Dr. Gilbert. Owing to the patient's exhausted condition, we considered it inadvisable to empty the uterus, and decided to feed by the duodenal tube. The patient continued to retch and vomit a dark fluid.

Treatment and Course.—March 5, the tube was passed into the stomach. A few hours afterward the patient was given glucose, soda and water; this feeding she promptly ejected. The latter fact indicated that the tube had probably not passed the pylorus; but the following day, March 6, as clear bile was aspirated, the tube evidently had passed the pylorus. The patient had a restless night, gagging most of the time.

From now on she was fed, one hour, by the slow drip, glucose, 5 per cent., aqueous solution of sodium bicarbonate 2 per cent. This formula was used through the day at three-hour intervals.

With the settling of the tube into the duodenum, the patient was relieved almost immediately, and the eructation of gas became less frequent, and the distress less painful.

March 7, feeding at three-hour intervals was continued through the day with a formula consisting of glucose, 5 per cent. solution, 2 ounces (60 c.c.); milk, 3 ounces (90 c.c.); water, 3 ounces (90 c.c.); bromid, 15 grains (1 gm.).

March 8 and 9 she continued to be fed by the tube, the formula being supplemented by such things as milk, maltose, fruit juices and eggs, besides physiologic sodium chloid solution. The patient retained the feedings; the temperature was now normal, the pulse 110, and the respiration 20.

March 13, four days later, the tube was removed, and the patient fed by the mouth. From this feeding of boiled eggs, toast, etc., the patient experienced no distress. With the removal of the tube, recovery continued easily and rapidly.

Laboratory findings.—The stomach contents on the day of entry, March 4 (evacuation) were: amount, 70 c.c.; color, dark; reaction, acid ++; free acid, 28; total, 66; Weber test for blood, ++. March 16 (evacuation): amount, 15 c.c.; color, watery; reaction, acid, free, 0; total, 8.

Blood count, March 4, erythrocytes, 4,140,000; hemoglobin, 82.

Blood chemistry: March 6, blood urea nitrogen, 28.62 mg. per hundred cubic centimeters; total nonprotein nitrogen, 55.52 mg. per hundred cubic centimeters; uric acid, 6.18 mg. per hundred cubic centimeters; carbon dioxid combining power, 49.4 per cent. by volume. March 11, uric acid, 1.59 mg. per hundred cubic centimeters; creatinemia, 1.12 mg. per hundred cubic centimeters. March 12, blood sugar, 1.38 per cent.; blood urea nitrogen, 18.03 mg. per hundred cubic centimeters; total nonprotein nitrogen, 37.98 mg. per hundred cubic centimeters.

Urine: March 6, albumin, ++; sugar —; acetone, +; casts, many hyaline; frequent leukocytes; catheterized.

CONCLUSION

The deduction from this case would seem to be that, by the applied use of the duodenal tube in early stages of hyperemesis gravidarum, the necessity for emptying the uterus for this disturbance may be reduced to a minimum. This method of treatment not only relieves the concern about the loss of life to the mother, but secures the life of the fetus as well.

While, in the treatment, the passing of the tube is comparatively simple, still, to insure the best and quickest results, the cooperation of the patient with the physician is necessary. After the tube has settled into place—it takes from four to twenty-four hours—the rest of the cure is simple.

As I see it now, the principal indications for the use of the tube are the loss of weight (due to starvation)

or the dehydration of the tissues, in other words, the depleted condition that arises from excessive vomiting, or hyperemesis gravidarum.

104 South Michigan Avenue.

Clinical Notes, Suggestions, and New Instruments

A SIMPLE METHOD FOR DEMONSTRATING TUBERCLE BACILLI IN THE SPINAL FLUID*

SHEO-NAN CHEER, M.D., BOSTON

Most clinicians are dissatisfied with the methods now in use in the search for tubercle bacilli in the spinal fluid of the meningitides. The pellicle and the film methods perhaps are the best. Both are based on the hope that the tubercle bacilli will be caught in the film that forms a spider's net in the fluid or a scum on its surface. Their disadvantages are threefold: (1) Such fibrin nets and films are not always formed. (2) Both these methods require refrigeration or incubation for at least twenty-four hours. (3) Even when tubercle bacilli are present in considerable numbers, only a few may be caught in the film or net, and so require many tedious hours of search before they are found. The early discovery of the tubercle bacilli is particularly important in those fluids in which polymorphonuclears predominate, and when, because of the latter condition, the possibility of a tuberculous meningitis is not seriously considered.

In endeavoring to develop a more satisfactory technic, two objectives were sought: (1) To reduce the specific gravity of the fluid till the point was reached at which the tubercle bacilli readily sink to the bottom on centrifugation. (2) To produce an albuminous coagulum which on sedimentation absorbs the tubercle bacilli. The attempt was made to reduce the specific gravity of the fluid by the addition of distilled water or to cause an albuminous coagulum by heating the upper layer of the fluid in a tube (as in the test for albumin in the urine) with subsequent centrifugation. Both these methods gave inconstant results. The addition of sulphosalicylic acid produces a very abundant protein precipitate, and tubercle bacilli were found in such precipitates; but this method was discarded because the sediment after centrifugation was so voluminous that the chances of finding the tubercle bacilli in any single smear were not great. The acid also has deleterious effect on the cells.

At last a method which seemed to fulfil ideally the theoretical requirements and which in practice gave excellent results was devised. This consists in the addition of one-third volume of 95 per cent. alcohol to the spinal fluid, which amount is sufficient to allow the tubercle bacilli to descend to the bottom on centrifugation, and, in addition, to form a thin albuminous cloud which sweeps the tubercle bacilli down with it. A further advantage in this method is the fixing of the cells in the fluid by the alcohol, thus enabling the use of the same smear for differential counts.

TECHNIC

Five cubic centimeters of spinal fluid is collected in a well cleaned centrifuge tube. To this, from one-third to one-half volume of 95 per cent. alcohol is slowly added, the tube being gently shaken all the while so as to obtain an evenly distributed cloud of coagulum rather than a single thick ring at the top. More or less alcohol may be added according to the density of the coagulum. In case very little or no coagulum is formed, a drop or two of dilute solution of egg albumin may be added. The optimal amount of coagulum is one that forms a milky appearance, such as one would call a "trace" in urine analysis.

The tube is then centrifuged at a fairly high rate of speed for one-half hour, or longer in case the precipitate is scanty. The supernatant fluid is then carefully decanted, leaving the albuminous precipitate in a very tiny drop of fluid. With a wire or a capillary pipet, this is then transferred to three or four slides, care being taken not to touch the sides of the tube in withdrawing the loop, since the material may stick to the tube and be lost. One slide may be reserved for gram stain or differential count, and the rest stained by the Ziehl-Neelson method.

In the last year this method was used in seven successive cases of tuberculous meningitis at the Massachusetts General Hospital, and tubercle bacilli were found in every case without prolonged search.

Since the method was devised, surgeons of the genito-urinary department of the Massachusetts General Hospital have used it with considerable success in demonstrating the tubercle bacilli in the urine of patients with renal tuberculosis. However, they found it necessary first to centrifuge the specimen at a low speed for five minutes to throw down cells and débris. Not many bacilli will be caught in this sediment on account of the relative high specific gravity of the urine. The clear supernatant urine is then poured off and treated as outlined above.

* From the Medical Laboratory of the Massachusetts General Hospital.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

DIPHTHERIA ANTITOXIN-TOXIN MIXTURE (See New and Nonofficial Remedies, 1922, p. 282).

H. K. Mulford Co., Philadelphia.

Diphtheria Toxin-Antitoxin Mixture-Mulford—T-A Mixture-Mulford: Each Cc. of the mixture constitutes a single dose containing 3 lethal (L+) doses of toxin and 3.5 units of antitoxin; marketed in packages of three 1 Cc. vials (*M 70-50*) representing one immunizing treatment; in packages of thirty 1 Cc. vials (*M 70-5*) representing ten immunizing treatments; also in packages of one 10 Cc. vial (*M 70-024*) representing three immunizing treatments of three doses each.

PHENOLSULPHONEPHTHALEIN (See New and Nonofficial Remedies, 1922, p. 230).

Phenolsulphonephthalein-Ipco. — A brand of phenolsulphonephthalein-N. N. R.

Manufactured by the Intra Products Co., Denver. No U. S. patent or trademark.

Vensterile Solution Phenolsulphonephthalein, 1 Cc.: Each Cc. of solution represents phenolsulphonephthalein-Ipco, 0.006 Gm. (1/10 grain) in the form of the monosodium salt.

Public Health Conditions in the Dominican Republic.—The Dominican Republic is located in the West Indies, occupies two thirds of the island of Haiti, between Cuba and Porto Rico, and has an area of 20,000 square miles and a population of about 708,000, including Spanish, Indian and African, negroes predominating. Since 1918, the United States naval authorities have occupied the country, owing to frequent insurrections, and sanitary conditions were reported as appalling. Commander Hayden, M. C., U. S. Navy, reports that since then the position of chief sanitary officer has been created and recently a new sanitary law, governing sanitation, public health, and the practice of the medical profession, became effective, all previous legislation on these subjects becoming annulled. The department of sanitation and beneficence was established and the country was divided into seven sanitary districts, each in charge of a health officer, and a public health laboratory was instituted. Violations of the sanitary law are punished by fines of from $100 to $200. Appropriations of $322,000 were made by the central government, and the municipal appropriations totaled $210,000, by which charity hospitals and orphanages were established and maintained. Venereal disease is prevalent in the republic, the incidence of syphilis being about 70 per cent. There is approximately only one physician for every 8,700 people.

PROCEEDINGS OF THE ST. LOUIS SESSION

MINUTES OF THE SEVENTY-THIRD ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT ST. LOUIS, MAY 22-26, 1922

HOUSE OF DELEGATES

First Meeting—Monday Morning, May 22

The House of Delegates met in the St. Louis Medical Society Building, St. Louis, and was called to order at 10 a. m. by the Vice Speaker, Dr. F. C. Warnshuis, Grand Rapids, Mich.

Preliminary Report of the Committee on Credentials

The Chairman of the Committee on Credentials made a preliminary report for this committee, stating that the committee desired at this time to report progress, and that more than a quorum of delegates had qualified.

As there was no objection, the report was accepted.

Next in order was the roll call by the Secretary.

The Secretary stated that the registration of the delegates in attendance recorded the presence of more than a quorum.

A quorum being present, the Speaker announced that the House was constituted and ready for the transaction of business.

The next order of business was the presentation, correction, and adoption of the minutes of the Seventy-Second Annual Session.

The Secretary stated that the minutes had been printed and circulated among the members of the House of Delegates, with the request for criticisms or corrections, but none had been received.

It was moved that the reading of the minutes of the Seventy-Second Annual Session be dispensed with and approved as printed.

Seconded and carried.

Addresses of Executive Officers

Drs. F. C. Warnshuis, Speaker; Hubert Work, President, and George E. de Schweinitz, President-Elect, addressed the House. See addendum.

Reports of Officers

SECRETARY'S REPORT

Dr. A. R. Craig, secretary, presented the following report, which was referred to the Reference Committee on Reports of Officers:

To the Members of the House of Delegates of the American Medical Association:

The following report is submitted for 1921-1922:

MEMBERSHIP

The membership of the several constituent associations, which is the membership of this Association, according to records in the Secretary's office on May 1, 1922, was 89,048. This is shown in the accompanying table, which also indicates the increase and the decrease in the membership of each of the organizations.

FELLOWSHIP

The Fellowship of the Scientific Assembly of the American Medical Association on May 1, 1921, was 50,970. During the year from May 1, 1921, to May 1, 1922, 478 Fellows have died, 1,433 have resigned, 724 have been dropped from the roll as not eligible, 692 have been dropped for non-payment of Fellowship dues and the names of twelve have been removed from the roll on account of being reported "not found," making a total of 3,339 names to be deducted from the Fellowship roll. Of these discontinuances, 962 have been transferred from the Fellowship roster to the subscription list of THE JOURNAL. There have been added to the Fellowship roll 5,391 names. Of these 3,407 were transferred from the subscription list of the Association's publications. The Fellowship of the Association on May 1, 1922, was 53,022, a net increase of 2,052.

DEATH OF SPEAKER

Dr. Dwight H. Murray, Speaker of the House of Delegates, died suddenly at his home in Syracuse, N. Y., from valvular heart disease on Oct. 21, 1921, aged 60. He represented the Medical Society of the State of New York in this House of Delegates continuously from 1910-1920, when he was elected Speaker of the House. He was Vice President from 1916 to 1920.

HOTEL RESERVATIONS FOR MEMBERS OF THE HOUSE OF DELEGATES

In compliance with the action taken by the House of Delegates last year at the Boston Session arrangements were made to reserve tentatively 150 hotel rooms for the accommodation of members of the House of Delegates at the present session and these rooms were held until after all reported delegates had been advised by the Secretary's office that they could secure hotel accommodations from the rooms so reserved, and until the secretaries of the state associations holding meetings at which new delegates would be elected during the spring months had been urged to secure reservations for the delegates who were to be elected at their state meetings. This action has been criticized in at least two instances. Consequently, the subject is brought to the attention of the House of Delegates. The criticisms were to the effect that the reservation preempted rooms at one of the leading hotels which it was claimed should have been available to "first come, first served" applicants for reservations addressed to that hotel.

ORGANIZATION

In accordance with the plan of organization recognized by the Association, the several component medical societies are vested with the authority to elect the members of the organization, and the model form of constitution for these component societies, prepared by the Committee on Organization, declares that the society shall judge of the qualification of its members but that as it is the only door to the state medical association and to the American Medical Association for physicians within its jurisdiction, every reputable and legally qualified physician of the county or district who does not support or practice or claim to practice sectarian medicine shall be eligible to membership. The model form for constitution and by-laws of constituent state associations contains the following provision: "Any physician who may feel aggrieved by the action of the society of his county in refusing him membership, or in suspending or expelling him, shall have the right to appeal to the Council, and its decision shall be final."

The intent of these regulations seems to be clear. The authority for carrying out the provision is, however, not stated definitely enough to avoid possible conflict between a component society and the constituent state association. In order to obviate these questions of controversy, the model form for by-laws of component county societies might be modified to read:

"The society shall judge of the qualifications of its members, subject, however, to the provisions set forth in the constitution and by-laws of the state association of which the society is a component branch, but as it is the only door, etc."

The section from the model form for constitution and by-laws for the state association, in order to conform to the provisions of the constitution and by-laws of the Ameri-

can Medical Association, should have added to the section quoted above the phrase

"Provided, however, that on questions of law and procedure, but not of fact, appeal may be made to the Judicial Council of the American Medical Association."

Another subject which merits consideration is the question of the transfer of membership from one component society to another when a member of the organization moves to a new location and then engages in the practice of his profession.

ORGANIZATION OF CONSTITUENT ASSOCIATIONS

Constituent Association of	No. Counties in State	No. Component Societies in State Assn.	Number Counties in State Not Organized		No. Physicians in State (7th Ed. Directory)	Number Members of State Association		No. A. M. A. Fellows in State	No. Subscribers to Journal in State*
			1921	1922		1921	1922		
Alabama	67	67	.....	.....	2,405	1,683	1,667	469	302
Arizona	14	12	3	2	380	245	180	168	88
Arkansas	75	63	12	12	2,450	1,194	1,114	437	203
California	58	42	16	16	6,766	3,351	3,450	2,499	1,701
Colorado	63	36	27	27	1,817	896	1,045	667	349
Connecticut	8	8	.....	.....	1,729	1,019	1,083	703	393
Delaware	3	3	.....	.....	262	129	135	94	56
Dist. Columbia	.....	.....	.....	.....	1,689	567	570	374	253
Florida	54	31	23	23	1,281	577	580	302	252
Georgia	154	101	53	53	3,406	1,225	1,858	583	363
Idaho	44	26	18	18	553	250	313	144	116
Illinois	102	100	2	2	10,651	7,065	7,384	4,679	2,121
Indiana	92	90	2	2	4,446	2,420	2,444	1,348	649
Iowa	99	99	.....	.....	3,536	2,277	2,448	1,365	608
Kansas	105	67	38	38	2,550	1,639	1,632	865	387
Kentucky	120	114	6	6	3,323	2,142	2,158	744	309
Louisiana	64	41	23	23	2,001	1,124	1,076	758	278
Maine	16	15	1	1	1,105	667	748	367	139
Maryland[1]	23	21	2	2	2,364	1,274	1,291	827	592
Massachusetts[2]	14	14	.....	.....	5,959	3,798	3,944	2,692	1,151
Michigan	83	81	2	2	4,593	2,864	3,147	1,678	787
Minnesota	86	82	4	4	2,028	1,452	1,704	1,201	643
Mississippi	81	79	2	2	1,761	794	881	338	191
Missouri[1]	114	108	6	6	5,921	3,383	3,511	1,743	828
Montana	51	19	32	32	620	381	372	181	161
Nebraska	93	63	29	30	1,965	1,068	1,077	688	418
Nevada	17	3	14	14	147	91	99	60	34
New Hampshire	10	10	.....	.....	641	520	524	291	80
New Jersey	21	21	.....	.....	3,200	1,895	2,108	1,441	681
New Mexico	29	14	15	15	529	286	298	126	92
New York	62	61	1	1	16,284	8,916	9,270	5,763	3,162
North Carolina	100	82	18	18	2,236	1,636	1,412	563	415
North Dakota	53	51	2	2	556	455	415	272	113
Ohio	88	87	1	1	8,092	4,556	5,058	2,518	1,370
Oklahoma	77	66	11	11	2,622	1,374	1,350	702	281
Oregon	36	34	2	2	1,145	616	714	300	252
Pennsylvania[3]	67	63	4	4	11,348	7,384	7,429	4,648	2,096
Rhode Island[2]	5	5	.....	.....	778	388	380	289	141
South Carolina	46	41	5	5	1,452	632	714	299	228
South Dakota[2]	68	10	8	8	658	398	352	241	155
Tennessee	96	67	29	29	3,328	1,743	1,890	693	327
Texas	248	179	69	69	6,205	3,606	3,501	1,736	735
Utah	29	5	24	24	496	296	335	206	128
Vermont	14	12	2	2	594	379	402	184	99
Virginia[4]	100	65	35	35	2,545	1,898	1,951	652	463
Washington	39	19	20	20	1,797	987	1,113	593	384
West Virginia	55	41	14	14	1,717	1,235	1,314	541	378
Wisconsin	71	70	1	1	2,750	1,949	1,921	1,168	637
Wyoming	22	10	12	12	267	120	160	81	74
Misc., Foreign, Govt. sub. for Army, Navy & U. S. P. H. S.	.....	.....	.....	.....	.....	.....	.....	131	2,860
Alaska	.....	.....	.....	.....	.....	.....	20	13	10
Hawaii	5	.....	.....	.....	.....	81	92	44	45
Porto Rico	7	.....	.....	.....	.....	116	127	32	33
Philippine Isl.	.....	.....	.....	.....	.....	158	196	64	82
Canal Zone	.....	.....	.....	.....	.....	74	91	25	29
Totals	3,048	2,398	588	588	145,608	85,283	89,048	49,590	28,713
Commissioned Officers[5] and Honorary Fellows								3,432	
								53,022	

* Not including Fellows of American Medical Association.

Note.—The number of members of the different associations stated in this table is in accord with the membership of the several associations as they were reported to the Secretary on April 1, 1922.

The lack of an effective uniform system for reporting the membership of the state associations accounts for whatever discrepancies this table shows and detracts from the value of the statement.

Component societies are those societies which compose the state association. A component society may include one county or more.

1. The state of Maryland has 23 counties and the city of Baltimore; Missouri has 114 counties and the city of St. Louis.

2. These state associations are divided into district societies, and these are listed in the table as component societies. Some of these districts are smaller and some larger than the county, the county lines being ignored.

3. Provision is made for the physicians in each of these counties to join the component society in an adjoining county.

4. Virginia has recently adopted the plan of organization and is now establishing component county medical societies.

5. This figure includes the Medical Corps of the Army, the Navy and the Public Health Service.

The foregoing instances are cited for the purpose of bringing the general question to the attention of the House of Delegates. It is suggested that the Judicial Council of the American Medical Association be requested to revise the model forms for constitution and by-laws for both component societies and constituent associations. It is further suggested that the Judicial Council be authorized to submit to the constituent state associations such changes as may be unanimously approved by the Council in the fundamental principles set forth in these model forms for constitution and by-laws. It is to be hoped that any revision in these model constitutions and by-laws will commend themselves to the constituent state associations and the component county societies so strongly as to insure their adoption.

AMERICAN MEDICAL ASSOCIATION BULLETIN

The American Medical Association Bulletin was first published as the Councilor's Bulletin. It was planned to devote this publication to the discussion of organization matters. Contributions were received from officers of county and state organizations discussing the value of the county society to its members, the place of the state association in the organization, and similar subjects. These articles from the field did not continue, however, and the Bulletin was devoted to publishing reports of the Councils, conferences held under the auspices of the Councils, and similar matters. In accordance with the action taken by the Board of Trustees at its meeting held last November, an effort is being made to restore the Bulletin to its original purpose and to make it a forum for the discussion of sociologic, economic and particularly of organization themes. The Board has directed that the Secretary of the Association shall be the Editor of the Bulletin, and advantage is taken here to make special request of the members of the House of Delegates to use the Bulletin for the discussion of topics which should be considered by the House of Delegates. The editorial policy, if it meets with the approval of the House of Delegates, will be to place the columns of the Bulletin at the service of members of the organization, of officers of the component societies and of the constituent associations, and of the members of this House of Delegates and the officers of the Association. It has been suggested that the Bulletin be announced to be the official journal of the House of Delegates and it is requested that action by this body be taken on this proposal.

"MEDICAL ADVISORY COMMITTEE"

Early last January, inquiries were received at the Secretary's office regarding a letter that had been sent by a "Medical Advisory Committee" to the component county medical societies, the constituent state associations and others. This letter, which was reprinted in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION and in the American Medical Association Bulletin, suggested the adoption of a preamble and resolutions in accordance with a copy submitted. Twenty-three component county medical societies have transmitted to the Secretary's office reports to the effect that they had adopted the submitted preamble and resolutions offered by the "Medical Advisory Committee" in the form proposed in the circular or with slight modifications. In each instance, the officers of the county medical society reporting such action were asked for the evidence, in support of the postulates incorporated in the preamble, which was submitted to the county society at the time the action was taken; nine replies which were received have been published in the American Medical Association Bulletin. A statement issued by a joint committee of the Board of Trustees and the Judicial Council, discussing these postulates, also was published in THE JOURNAL as well as in the American Medical Association Bulletin. Copies of these Bulletins were mailed to the officers of the American Medical Association, the presidents and secretaries of the constituent associations and of the component societies, and also to the members of the House of Delegates as constituted at the Boston Annual Session; additional copies are available for the information of those members of this House who may not have had access to them.

COOPERATION IN ORGANIZATION

No real good can be accomplished by mere criticism of what has been done or what has not been done in the past.

All recognize that much constructive work in the various tasks undertaken by the Association has been accomplished. That these accomplishments have been all that are desired, no one will claim. The fact that there is a conflict of opinion is gratifying because if these conflicting opinions be controlled, they stimulate action that must result in the welfare of the organization, its members and the public service which is rendered. In any organization constituted as is the American Medical Association, development and effective service is conditioned on the helpful cooperation of the component societies and the constituent state associations. Finally, it is to this House of Delegates that the Association looks for the intelligent framing of a constructive policy to be carried out by the officers elected by this House, working in cooperation with the branch organizations.

UNFINISHED BUSINESS

At the Boston Session last year, the Reference Committee on Amendments to the Constitution and By-Laws submitted the following to lie over for action at the 1922 session of the House:

"The last sentence of Section 2, Article 5, of the Constitution reads:

The Trustees shall be ex-officio members of the House of Delegates, but without the right to vote.

We offer and introduce the following amendment—that this sentence be changed to read:

The Trustees and Ex-Presidents of the Association shall be ex-officio members of the House of Delegates, but without the right to vote.

Additional matters in which the office of the Secretary has been active are reported to the House of Delegates through other channels.

Respectfully submitted,

ALEXANDER R. CRAIG, Secretary.

REPORT OF THE BOARD OF TRUSTEES

Dr. W. T. Sarles, Chairman, presented the following report, which was referred to the Reference Committee on Reports of Officers:

To the Members of the House of Delegates of the American Medical Association:

The year 1921 was one of general depression and contraction in the commercial world. Practically all activities were affected, and the printing and publishing field was no exception; the reaction to the abnormal profits of the preceding year or two was such that great losses were common. Our publications, however, were affected but little by the conditions; in fact, the year was a prosperous one from the financial point of view, and satisfactory in respect to all the enterprises connected with the publications and with our business matters generally.

The increase of $1 in the annual dues and in the subscription price of THE JOURNAL went into effect in January, 1921. Naturally, considerable falling off in the circulation was expected on account of this increase in dues. However, there were comparatively few losses on this account; in fact, the mailing list at the end of the year showed an increase of 1,109. The actual count of that list as of Jan. 1, 1922, was 79,669.

Table 1 in the addenda indicates the circulation for the year by weeks; Table 2, the circulation by states and the percentage of physicians in each state receiving THE JOURNAL; Table 3, the number of Fellows and subscribers each year, beginning with 1900. In addition to the circulation indicated in Table 2, 307 copies of THE JOURNAL were taken by the Medical Department of the Army; 250 by the Navy, and 103 by the Public Health Service. Also, there were 2,828 foreign subscribers, including those in United States dependencies.

It will be noticed by Table 3 that there are approximately 50,000 Fellows taking THE JOURNAL, and a little over 30,000 subscribers. The latter number—30,000—exceeds by several thousand the total paid circulation of any other medical weekly. The *British Medical Journal* has the next highest circulation, which, we believe, at the last count was something over 23,000.

ADVERTISING DEPARTMENT

As stated in last year's report, until 1919 the receipts from dues and subscriptions exceeded those from advertising; since 1919, the order has been reversed. For the year 1921 the earnings from advertising exceeded the receipts from dues and subscriptions by $117,367. The total advertising earned during 1921 was $569,078, or an increase over the preceding year of $56,313. The confidence of the medical profession (in the advertising pages), maintained by the high standard governing acceptance of all advertisements, is no doubt a great factor in THE JOURNAL'S volume of, and increasing revenue from, advertising.

COOPERATIVE MEDICAL ADVERTISEMENT BUREAU

The bureau is now on a self-supporting basis; in fact, in December of the last three years it has returned a substantial amount to the various journals, as their proportion over and above the actual expenses of conducting the bureau. It continues to give satisfaction to all its constituent journals, which includes every state journal except that of Illinois; it is of practical assistance to the editors, most of whom are physicians in active practice, the majority having neither the time nor the inclination to look after the details which are assumed by the bureau. The Massachusetts State Medical Society has recently taken over the *Boston Medical and Surgical Journal*, and this has now come into the bureau.

SPANISH EDITION

The Spanish edition is doing fairly well, and the circulation is about holding its own. As with all foreign business, the principal obstacle is the matter of exchange. The present conditions in this regard are a serious handicap in connection with the publication of the Spanish edition; the amounts to be remitted are small and, therefore, proportionately more difficult and expensive to handle than would be the case if the amounts were large. An attempt is being made to overcome in part this handicap. While we are publishing this journal at a loss—the Rockefeller Foundation, as announced in former reports, bearing one half of it—at the same time, it will be remembered that the main purpose is to bring about closer relations between our Latin-American confrères and ourselves. In this it is succeeding. The Spanish journal contains the cream of the scientific matter that appears in the regular edition, and commendatory letters from its readers are received almost daily. Until this journal was started, Central and South America depended almost entirely on Germany—and to a less extent on France—for their medical periodical literature. The Spanish edition is making known to our Spanish-speaking confrères that the medical profession of the United States is in the vanguard in advancing medical science.

The circulation of the Spanish edition for last year was 3,469, and was widely distributed: Mexico has the largest number of subscribers—648; Cuba has 497; Argentina, 396; Spain, 379; Brazil, 269; Philippine Islands, 241; Chile, 184; Colombia, 109. The rest of the circulation is scattered and includes Ecuador, Guatemala, Nicaragua, Peru, Venezuela, etc. The language in Brazil is Portuguese, which accounts for the comparatively small number circulated in that country.

SPECIAL JOURNALS

There was a slight profit on the publication of three of the special journals—the ARCHIVES OF INTERNAL MEDICINE, the AMERICAN JOURNAL OF DISEASES OF CHILDREN and the ARCHIVES OF SURGERY; and a loss on the publication of the ARCHIVES OF NEUROLOGY AND PSYCHIATRY and on the ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY. The gains on the three practically overcame the losses on the two, there being an actual loss of about $40. All these journals may be regarded as successful and fulfilling the purpose for which they were established. The circulation of each, as of Dec. 31, 1921, is as follows: ARCHIVES OF INTERNAL MEDICINE, 2,611; AMERICAN JOURNAL OF DISEASES OF CHILDREN, 2,692; ARCHIVES OF NEUROLOGY AND PSYCHIATRY, 1,220; ARCHIVES OF DERMATOLOGY AND SYPHILOLOGY, 1,245; ARCHIVES OF SURGERY, 3,146. The

ARCHIVES OF NEUROLOGY AND PSYCHIATRY and the ARCHIVES OF DERMATOLOGY AND SYPHILOGRY appeal to limited specialties; therefore, their circulation is really better than was expected.

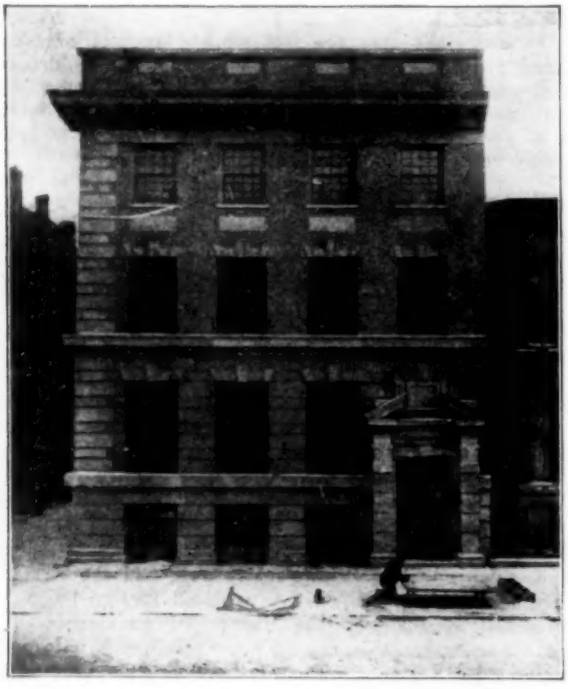


Fig. 1. Building "A."—The three-story and basement building originally erected, and occupied in December, 1902.

QUARTERLY CUMULATIVE MEDICAL INDEX

This index, established to supply up-to-date, ready references to practically all the important medical literature of the world, is proving a success and evidently is thoroughly appreciated. The circulation is slowly increasing: on January 1 of this year there were 1,133 names on the subscription list, which must be considered as eminently satisfactory for a book of this character. It is only just beginning to be known abroad, but already has 108 foreign subscribers.

THE PROPAGANDA DEPARTMENT

It is undoubtedly a fact that the American Medical Association is better known to the general public through the educational service of the Propaganda department than through any other phase of the Association's activities. Few members of the organization appreciate this, as is evidenced by letters received from physicians, in which the question is asked: How are you reaching the public with these articles published in a medical journal? The fact is, all the material published in THE JOURNAL on the nostrum evil and quackery that is of interest to the public is immediately reprinted in leaflet or pamphlet form for general circulation, especially in reply to the queries that are received continually from laymen.

It should again be emphasized that the articles that appear in this department of THE JOURNAL from week to week are but a small part of the Propaganda work. Thousands of letters of inquiry are received and answered yearly and the educational value of this work is not fully appreciated. This work is referred to with increasing frequency in school and college textbooks on general science, civic science, biology, hygiene, etc. These books urge the students to write to the Propaganda department for information and to obtain its books and pamphlets for supplementary reading and study. As an example of what this means in educating the public at its most impressionable age, one instance has been cited: The students of a single class of one metropolitan high school sent in 130 letters of inquiry. Each of these was answered and educational material sent to the students. Almost as important is the work of furnishing information to advertising managers of newspapers and magazines the policy of which is to keep their advertising pages as free as possible from objectionable medical "copy." Hardly a day passes that a request for information is not received from such a source. Here, again, the department is exerting a silent but far-reaching influence to an extent that can be appreciated only by those who are familiar with its daily work.

The second volume of "Nostrums and Quackery" has received a flattering reception by both the medical and the better representatives of the lay press. It is issued in uniform size and style with the first volume, but contains much more material. There is an increasingly active demand for the books, pamphlets and educational posters, and especially for the stereopticon slides, prepared and issued by the department. The pamphlets and posters already issued are kept up to date and new ones added.

COUNCIL ON PHARMACY AND CHEMISTRY

The Council on Pharmacy and Chemistry, continuing its splendid efforts for rational therapy, has made its influence felt not only in this country but also abroad. Similar bodies, concerned with framing legislation affecting drugs and with service such as that performed by our own Council, have been proposed or established in France, Germany, Belgium and Holland. Through its publication "New and Nonofficial Remedies," which describes the medicinal preparations found worthy of recognition, and its "Annual Reports," which explain the rejection of those found unworthy, the Council provides the means whereby physicians may distinguish between drugs that may be expected to have therapeutic value and those which are more or less worthless. It may interest you to know that the distribution of N. N. R. is world wide; orders have been received from Brazil, Colombia, Cuba, Honduras, Mexico, Nicaragua, Philippine Islands, Porto Rico, Egypt, China, India, Japan, Korea, Manchuria, Alaska, Canada, England, Scotland, Ireland, Switzerland, Syria and the Transvaal. The problems before the Council today are not the complex proprietary mixtures which were the bane

Fig. 2 (Building "A").—The old building of the Association as it appeared in 1910. This view shows the added fourth story erected in 1905, together with the remaining houses of the original purchase.

of medicine fifteen or twenty years ago, but the "mixed" vaccine, the "pluriglandular" endocrine preparations and the nonspecific protein products of animal and vegetable origin. In addition to many irrational mixtures of this type, the Council is also coping with both the extraordinary claims of firms specializing in intravenous medication and the attempts at commercialization of our new knowledge of vitamins.

Fig. 3 (Buildings "A" and "B").—The Home of the Association.

The Chemical Laboratory continues to serve the profession by the analyses which it makes for the Council and through the independent investigations which it takes up at the request of the THE JOURNAL or on its own initiative. False claims regarding the composition of medicines sold to physicians are, thanks to our laboratory, less common than formerly. Instead of simple chemical analyses, the laboratory is obliged to make use of the most modern methods in investigating the newer products that are offered.

APPROPRIATIONS FOR RESEARCH

The Board of Trustees has been making appropriations averaging about $3,000 annually for research: $1,500 for the Committee on Therapeutic Research, and a like amount for the Committee on Scientific Research. The former—a subcommittee of the Council on Pharmacy and Chemistry—confines its grants to the encouragement of investigations on matters relating to therapeutics; the latter covers the broader field of scientific medicine. For instance, during 1920 the Committee on Scientific Research granted $450 for continuation of the work on the influence of glands of internal secretion on ovulation; $300 for work on problems of excretion of urea; $400 for the study of bacterial proteins; $300 for work on metabolism of inorganic salts, and $350 to aid in a study of the arachnoid fluid in early syphilis. Most of the expenditures of the Committee on Scientific Research, as well as of that on Therapeutic Research, are for materials; occasionally they are for special assistants. This year, a special appropriation of $1,000 was made for the Council on Pharmacy and Chemistry, to be used in the conduct of an exhaustive investigation of the subject of local anesthetics. It is a continuation of the work that has been conducted during the last two years by a special committee of the Council, of which Dr. Emil Mayer, of New York, was chairman. Three reports made by this committee have appeared—the first in the *Laryngoscope* in July, 1920, an abstract of which was published in THE JOURNAL for July 31 of the same year. The final report appeared in THE JOURNAL, Oct. 22, 1921. The practical results of this investigation—which, however, covered only laryngology, rhinology and otology—warranted the Council in asking for a special appropriation to cover the general field of medicine. A new committee, with Dr. Mayer still as chairman, has been appointed and is now formulating its plans of work.

NEW BUILDING

In its report to you at Atlantic City, in 1919, your Board of Trustees stated that the increased activities of the Association were beginning to crowd the present facilities at headquarters, and that it had under consideration the tearing down of the old building and the extension of the steel and concrete building to the alley. Soon afterward, conditions in the building trades became so unsettled that it was decided to defer the matter of building for a time. However, as matters became more settled, the Board authorized the architects to prepare plans for building in the spring of 1921. These plans were presented to the Board at its annual meeting in February, 1921. The Board approved the plans and authorized the architects to work up the specifications and to call for bids, with the idea of commencing to build early in the spring of 1921. As the lowest bid was $420,000—over $100,000 higher than the architect's estimate—it was decided to postpone building. This matter was discussed in detail in our report to you last June, to which we refer.

The basement has been the main problem: Here all the large presses have to be located; here also is the logical place for paper storage. But the space would not be sufficient even for our present work if the heating and steam plants and the coal storage were to continue to occupy basement space, as is now the case. Last year the plan was solved, at least in part, by providing for a subbasement for the heating plant and machinery. This was a rather expensive and an uneconomical solution; the cost for the subbasement was estimated at $25,000. In taking up the matter this year, the architects suggested—as they had done the year before—that, if possible, we purchase the property adjoining on the east. Without going into details regarding the difficulties of securing this property—it was owned by two different persons—it was purchased last December, for approximately $32,000—only

Fig. 4.—Showing new property.

$7,000 more than the subbasement would have cost. It consists of a lot 40 by 100 feet, on which was a cheap double house. The obtaining of this property made it advisable to reconsider the original plans. After giving the subject careful consideration, keeping in mind not only the present but also the possible future needs of the Association, the Board decided to carry out the plans outlined in its report of 1919

and, in addition, to include the new property in the complete structure. This will provide a building 100 by 160 feet, six stories and a high basement, of steel and concrete construction, fireproof, and sufficiently strong to carry at least two more stories if more room should become necessary. Not only will there be sufficient room in the basement for the heating plant and the machinery appertaining to it, but also increased floor space. There will be an assembly room, 40 by 60, without pillars, that will seat from 300 to 350 persons, and a smaller room to seat from sixty to seventy-five; committee rooms also are provided for, besides the various departments, offices and storerooms. A slight change will be made in the main entrance on Dearborn street, and there will be an employees' entrance to the printing department on Grand Avenue; also another passenger elevator will be installed at the side of the present one.

This building will provide more room than is just now required; the mistakes of the past, however, have been in overconservatism. For instance: The first building [Building "A," Fig. 1] had hardly been occupied when it was outgrown. In about two years, additional property was bought, the building extended back 40 feet, and another story added [Building "A," Fig. 2]. In two years, still more room was needed, and one of the houses adjoining the old building on the south was taken over, altered and utilized [adjoining building "A" in Fig. 2]. Then, early in 1910, we moved into Building "B" [Fig. 3], which had just been completed, and rented the old building. In 1920, when it was found inadvisable to build, the old building [Building "A"] was taken over and occupied.

The new building should be ample for many years, and yet if the proposed popular medical magazine is published and is the success that most of us expect it to be, and especially if the Association's activities continue to expand, even the additional stories now provided for may be needed. The big—the important—thing is that we shall have space for a printing plant such as we have needed for several years. It may be recalled that, owing to lack of facilities, we were compelled to discontinue printing the Pennsylvania, Missouri and Indiana state journals, and that we were not able to undertake the publication of two special journals that were asked for. We have also been handicapped, on account of lack of space, in carrying on the regular work. The importance and the practical value of such a printing and publishing plant as the Association now owns should be emphasized. It gives the Association advantages in many ways: The large amount of paper used, especially in printing THE JOURNAL, makes it possible to deal directly with the mills and to obtain prices below those which the average printer has to pay; up-to-date labor-saving machinery, especially that adapted specifically to medical magazine printing, makes for economy of production. The ample space in the new building will make it possible for our mechanical department to do still more for the advancement of medicine in the United States—one of the fundamental objects for which the Association was organized—because it can print and circulate at a comparatively low figure scientific magazines that otherwise would be very expensive. Finally, the completion of this building will mean the accomplishment of an ambition which the officers and Fellows of the Association have had for many years—a substantial, well-equipped home that will be a credit to the medical profession of the United States and particularly to the American Medical Association. As this matter is put into type, we cannot state the cost, as the bids are not yet submitted. However, the building fund accumulated by order of the House of Delegates will, we are sure, be sufficient to complete the construction of the new building.

REFERENDUM ON THE THERAPEUTIC USE OF ALCOHOL

The results of the referendum conducted by THE JOURNAL during December and January were published in detail in THE JOURNAL, and it is unnecessary to recapitulate. The Board desires, however, to call attention to the special importance of the comments made by physicians in returning the questionnaire. These comments were of even greater value than the statistical matter; they reflected the extreme dissatisfaction of the profession with the conditions which have resulted from the regulations for the prescribing of alcoholic preparations. Analysis of the comments showed that, aside from the fact that they are taxed to enforce a law which is primarily for the good of the public, physicians are satisfied with the control of narcotics, as regulated under the Harrison Narcotic Law; a large number suggested that the government take over the whisky, including its storage and sale. It has been proposed that the government supply it in sealed packages—say, 8, 16 and 32 ounces—for medicinal use only, at a fixed price, under regulations similar to those of the Harrison Narcotic Law. Such a plan would make available to physicians a drug of dependable quality—the fact that such whisky was not obtainable was repeatedly emphasized in the comments—and lead to the elimination of unsatisfactory conditions resulting from limitations in quantities of the drug and in the number of prescriptions, such as now exist. It is believed that if this matter is presented to the Internal Revenue Department and to Congress, with the support of the medical profession, some such plan as is outlined may be adopted. The referendum demonstrates that a majority of those members of the medical profession who replied to the referendum believe whisky to be a necessary therapeutic agent. It also showed that the conditions are such as to demand a change in the regulations now existing permitting the use of alcohol. In any event, the Board of Trustees believes that conditions demand action on the part of the Association and recommends that the suggested appeal to the federal government be endorsed by the House of Delegates, and that it be referred to a special committee, to one of the councils or to the Board of Trustees for further action.

REDUCTION IN ANNUAL DUES

As will be remembered, in 1920 conditions in the printing trade reached a point at which THE JOURNAL was being published at a steadily increasing loss, specifically because of the high cost of paper and of labor, and in November, of that year, a special meeting of the House of Delegates was called to authorize increasing the annual dues from $5 to $6. Soon afterward, however, prices began to go down until now the price of paper is practically two-thirds of what it was in the fall of 1920; the cost of labor also has been decreased to a slight extent. The Board therefore believes that by the end of the year conditions will be such that we can revert to the $5 dues. It recommends, however, that the by-law governing the matter be amended so as to leave the regulation of the dues to the Board of Trustees; if an emergency in the future should necessitate it, the annual dues and the subscription might then be changed without calling together the House of Delegates. The present by-law (Chapter XVII) reads:

> ANNUAL FELLOWSHIP DUES: The annual Fellowship dues shall be six dollars, payable in advance on the first day of January of each year, of which not less than five dollars shall be credited to the subscription for one year to THE JOURNAL.

The Board suggests that the following be added:

> Provided, however, that the Board of Trustees, by unanimous vote, may change the amount of the annual dues; and provided further that these dues shall not be less than $5.00 or more than $6.00 per annum, and that any such change shall be announced in THE JOURNAL of the American Medical Association on or before November 1 of the year preceding that in which the change is to become effective.

THE BOARD OF TRUSTEES—THE BOARD OF DIRECTORS

Until two years ago, the duties of the Board of Trustees were defined in the Constitution (Article 7) as follows:

"The Board of Trustees shall have charge of the property and financial affairs of the Association."

In other words, the functions of the Board of Trustees pertained solely to the publication of THE JOURNAL and to the control of the business and financial affairs of the Association. At the New Orleans session, in 1920, the House of Delegates amended the Constitution by the addition of the following clause:

"and shall perform such duties as are prescribed by law governing directors of corporations."

The Board of Trustees understands the modification to mean that the Board now bears to the House of Delegates the same relation that a board of directors bears to the stockholders of a corporation; in other words, in the interval between the annual sessions, it is to act for the House of Delegates and to have a general supervision of all the activities of the Association.

That the Board of Trustees might keep in closer touch with all the work at headquarters, it created an Executive Committee, to meet monthly, or as often as necessary, at the Association headquarters. This committee consists of the local member of the Board and two others, with the chairman of the Board and the general manager as ex-officio members. Occasionally, the President or the President-Elect, or both, have been in attendance at the Executive Committee meetings.

Since the adoption of the modification of the Constitution, the Board of Trustees and its Executive Committee have been considering certain problems that do not come directly under any of the constituent councils. It is at this time, however, prepared to report only on the following:

Pay Clinics, Diagnostic Clinics and Group Practice

At the meeting of the Board of Trustees on November 10-12, as stated in THE JOURNAL for November 26, p. 1741, the question of pay clinics, diagnostic clinics and group practice was given extended discussion. Inasmuch as such organizations exist and are rapidly increasing, it is evident the American Medical Association should recognize this fact and give the matter consideration. The Executive Committee was authorized to consider the subject in detail and to report what action, if any, should be taken. The committee later recommended that a small committee be appointed to make a survey of the whole subject of group practice, pay clinics and similar combinations. The recommendation of the committee was approved by the Board of Trustees. As an initial movement in this direction, the committee asked Dr. H. R. M. Landis of Philadelphia to make a preliminary survey of the Cornell Pay Clinic. March 20, Dr. Landis made a report based on three visits to the clinic. He confirms the statements of the dean of Cornell, as published in THE JOURNAL, November 26, p. 1755, and indicates that the clinic was then conducted under the regulations outlined by Dean Niles. Quoting from Dr. Landis' report:

"No patient can be seen outside of the dispensary by any member of the staff; nor can any patient who needs surgical treatment be operated on by any one connected with the Cornell Medical School. Unattached patients who seek advice and who are found to be ineligible are given the names of those physicians not connected with the dispensary, and told that they can consult any one of these physicians, but that they must make their own choice. If, on the other hand, they have a physician, they are urged to return to him. . . . The family budgets of all applicants are carefully graded in order to exclude any one who can afford the services of a private physician. Several instances occurred at the time of my visits in which service was denied because of the income. . . . Again several instances were brought to my attention in which a patient referred by a physician was found to have an income in excess of that which would make him eligible; such cases were promptly returned to their physicians. . . . At the present time the great majority of the people coming to the Clinic is composed of those who have had some long-standing ailment. . . . It is questionable whether the private physician was much injured by the loss of these patients. . . . The one distinct impression I obtained was that the physician who does honest work has nothing to fear from such a clinic; on the contrary, it will furnish him excellent consultant facilities for those of his patients who can afford a small fee only. . . . In my opinion the public as a whole prefers going to a private physician rather than to a public clinic. . . .

"As a result of my observations, I would say that there are three outstanding facts for consideration: 1. What shall be the attitude of the Association toward the sociological aspects of this experiment? This, it seems to me, is the outstanding feature. It may be that ultimately the present plan will need revision, but the question of principle will remain the same. 2. What answer is to be made to the profession if the experiment is successful? Most of the criticisms I have seen were made apparently on the assumption that such a plan was a menace to the doctor. The rights of the public seem to have escaped their attention. Careful consideration will show that the doctor doing good work has nothing to fear. On the other hand, there is no gainsaying the fact that the shiftless practitioner will most certainly be injured. 3. Can such clinics, granting that the experiment is successful, be recognized safely outside of the jurisdiction of accredited hospitals? Conducted by a group of individuals solely for gain, they might be misused."

The summary of Dr. Landis' report records an individual investigation of the subject of one pay clinic; and as these forms of practice have developed rapidly and concern the private practitioner and his professional and economic status for good or evil, according to the relationship which exists between him and them, the Board believes that the Association should attempt to establish the fundamental principles and policies for the conduct of these forms of practice, if they are to continue. Therefore, the Board recommends that a survey be made of the existing pay clinics, diagnostic clinics and group practice, so that there may be a basis on which to outline such principles and policies as would assure greatest good to the public and to the general practitioner. As this matter includes both ethical questions and matter pertaining to hospitals, clinics, etc., the Board recommends that this work should be conducted jointly by the Judicial Council and the Council on Medical Education and Hospitals.

The latter is making a survey of dispensaries, outpatient departments and group clinics, a report of which will appear in the Hospital Number of THE JOURNAL. It experienced some difficulty in securing a complete list of groups, apparently because of the confusion as to what constitutes "group practice"; also, some groups, it appears, do not have, or hesitate to furnish, the information asked for. However, thus far the Council has learned of 139 group clinics. Definite information is being obtained from each, including the number of patients treated annually, classes of people treated and, especially, the names of those who make up the groups. In addition, each group is asked for a general statement in regard to the diagnostic service rendered to other physicians in the community. So far as reports have been received, it appears that this service for other physicians is quite generally provided.

American Red Cross

At our annual meeting in November, 1921, the secretary of the Board reported the result of a conference with the vice chairman of the Central Committee of the American Red Cross, in regard to the present and proposed future activities of that organization in public health work. He also presented a copy of a letter written by him to the vice chairman of the Central Committee of the American Red Cross, in which the opinion was expressed that the time had arrived when the American Red Cross should cease its public health activities and should restrict its work to the relief of disabled ex-service men in the hospitals and in their homes, in addition to the purposes for which it was originally organized, as designated in its charter. The Board approved the action of the secretary and endorsed the opinions expressed by him in the letter referred to. Apparently, the Central Committee of the American Red Cross has not modified its public health program. It is the opinion of the Board that the Association, through the House of Delegates, should take appropriate action to convince those in authority that the public health activities of the American Red Cross are no longer necessary and if continued are likely to promote community irresponsibility and helplessness in regard to its own welfare.

Bulletin

As one of the means of securing more practical and intimate cooperation between the officers of the component societies and of the constituent associations and the officers of the American Medical Association, the Board of Trustees has directed that the AMERICAN MEDICAL ASSOCIATION BULLETIN —originally started as a Councilor's Bulletin but in more recent years utilized to distribute full reports of the Council activities, conferences and similar matters—shall be issued under the editorship of the Secretary and the Field Secretary of the Association. The purpose is to devote the BULLETIN to a full and free interchange of opinion on organization subjects and related topics, including economic, social and ethical questions pertaining to the practice of medicine. Not the least of its functions, however, will be to develop better and more effective organization.

Lay-Medical Magazine

The Board of Trustees and its Executive Committee have discussed the subject of the proposed lay-medical magazine

on several occasions, but the Board is not prepared at this time to make a report. However, a conference has been arranged for May 19 and 20, in St. Louis, between the Council on Health and Public Instruction and the Board of Trustees, for the purpose of discussing the subject in full.

GORGAS MEMORIAL

Mr. H. de Joannis of Panama appeared before the Board of Trustees at its November meeting, and presented an outline of the proposition for a memorial to be erected to Major-General Gorgas at Panama. Mr. Joannis' mission before the Board was to secure the cooperation of the American Medical Association with the officers and directors of the Gorgas Memorial Institute of Tropical and Preventive Medicine at Panama. After discussion, the Board unanimously approved of the proposition, gave assurance that the American Medical Association would cooperate in the work, and instructed the Secretary of the Board to notify Dr. Braisted, the chairman of the Gorgas Commission, that the American Medical Association was willing to cooperate. The matter came before the Executive Committee at its meeting in December, through a letter received from Dr. Braisted suggesting that a committee be appointed to represent the Association. The Executive Committee recommended to the Board that such a committee be appointed and, the Board approving, the matter was referred to President Work, who appointed Dr. George E. de Schweinitz of Philadelphia, Dr. Charles W. Richardson of Washington, D. C., and Dr. Fred B. Lund of Boston as a committee to represent the American Medical Association and to act in an advisory capacity to the Board of Trustees.

INTERNATIONAL CONGRESS OF HYGIENE AT STRASBOURG

A request was made by Dr. Haven Emerson, through the President-Elect, Dr. de Schweinitz, for the cooperation of the American Medical Association in promoting the work of the International Congress of Hygiene at Strasbourg in the spring of 1923. The matter is referred to the House of Delegates, with the suggestion that this international congress be endorsed by the House, and that volunteers be encouraged to attend the congress.

LEGAL DEFENSE INDEMNITY IN MALPRACTICE SUITS

The Board of Trustees has had under consideration the need of cooperation between the committees on medical defense in the various states through what might be called the Legal Defense Department of the Association, under the jurisdiction of a legislative bureau. The Board is not yet ready to make a definite, final report as to just how this work shall be undertaken, but heartily commends the idea and asks the endorsement of the House of Delegates, to put the proposition into effect in a reasonable time.

FIELD SECRETARY

The Board for a long time has felt that there should be closer personal touch between the component county and constituent state associations and the central body than has prevailed heretofore. The many details connected with the secretary's functions at headquarters have made it impossible for him to do full justice to this phase of organization work. Therefore, the Board, acting under its new authority, looked for some one to take up this field work. Last November, after careful consideration on the part of the Board, the position was offered to, and accepted by, Dr. Olin West, of Nashville, Tenn. Dr. West for twelve years has been executive secretary of the Tennessee State Board of Health and for ten years secretary of the Tennessee State Medical Association. He is a man who, we believe, is thoroughly competent to fill the position. He reported for duty on April 15, and we bespeak for him the cooperation of the officers and members of the organization.

Respectfully submitted.

A. R. MITCHELL,
D. CHESTER BROWN,
OSCAR DOWLING,
CHARLES W. RICHARDSON,
W. T. SARLES,
WALTER T. WILLIAMSON,
FRANK BILLINGS,
WENDELL C. PHILLIPS,
THOMAS McDAVITT.

ADDENDA TO TRUSTEES' REPORT

PERCENTAGE OF PHYSICIANS RECEIVING THE JOURNAL

TABLE 2.—The number of physicians in the United States (based on the Seventh Edition of the American Medical Directory), the number receiving THE JOURNAL, and the approximate percentage in each state are indicated below. The copies to the U. S. Army, U. S. Navy, U. S. Public Health Service, etc., are not included:

State	Physicians in State 7th A. M. Directory	Number Receiving JOURNAL	Approximate Percentage 7th A. M. Directory
Alabama	2,405	798	33
Arizona	380	246	65
Arkansas	2,450	640	26
California	6,766	4,138	61
Colorado	1,817	1,004	55
Connecticut	1,729	1,109	64
Delaware	262	159	60
District of Columbia	1,689	640	38
Florida	1,281	587	46
Georgia	3,406	1,033	30
Idaho	353	258	47
Illinois	10,651	6,842	64
Indiana	4,446	1,989	45
Iowa	3,536	1,972	56
Kansas	2,550	1,273	50
Kentucky	3,323	1,047	31
Louisiana	2,001	1,045	52
Maine	1,105	513	46
Maryland	2,364	1,448	61
Massachusetts	5,959	3,842	64
Michigan	4,593	2,510	55
Minnesota	2,628	1,851	70
Mississippi	1,761	558	32
Missouri	5,921	2,574	43
Montana	620	340	55
Nebraska	1,965	1,114	57
Nevada	147	88	60
New Hampshire	641	370	57
New Jersey	3,260	2,180	67
New Mexico	529	243	46
New York	16,284	9,026	55
North Carolina	2,236	995	44
North Dakota	556	372	67
Ohio	8,092	3,932	49
Oklahoma	2,622	982	37
Oregon	1,145	582	51
Pennsylvania	11,348	6,782	60
Rhode Island	778	444	57
South Carolina	1,452	561	39
South Dakota	658	385	59
Tennessee	3,328	1,060	32
Texas	6,205	2,471	40
Utah	496	319	64
Vermont	594	278	47
Virginia	2,545	1,118	44
Washington	1,797	996	55
West Virginia	1,717	931	54
Wisconsin	2,750	1,814	66
Wyoming	267	165	62

The number of Fellows and of subscribers (not including advertisers, exchanges, libraries, colleges, etc.) on THE JOURNAL mailing list each year, beginning with 1900, are here given:

Year	Fellows	Subscribers
January 1, 1900	8,445	4,633
January 1, 1901	9,841	8,339
January 1, 1902	11,107	10,795
January 1, 1903	12,553	12,378
January 1, 1904	13,899	14,674
January 1, 1905	17,570	15,698
January 1, 1906	20,826	17,669
January 1, 1907	26,255	20,166
January 1, 1908	29,382	20,880
January 1, 1909	31,999	18,983
January 1, 1910	33,032	19,832
January 1, 1911	33,540	20,504
January 1, 1912	33,250	21,620
January 1, 1913	36,082	19,863
January 1, 1914	39,518	19,751
January 1, 1915	41,254	20,430
January 1, 1916	41,938	22,921
January 1, 1917	42,744	22,156
January 1, 1918	43,420	23,117
January 1, 1919	42,366	24,687
January 1, 1920	44,340	30,032
January 1, 1921	46,669	31,347
January 1, 1922	48,937	30,175

SUBSCRIPTION DEPARTMENT

TABLE 1.—The following table indicates the number of copies printed each week, the total number for the year and the weekly average:

January 1	80,981		July 2	80,240	
January 8	80,555		July 9	80,365	
January 15	80,442		July 16	80,626	
January 22	81,553		July 23	80,454	
January 29	80,775		July 30	80,983	
		404,306			402,668
February 5	80,900		August 6	80,082	
February 12	80,546		August 13	80,708	
February 19	81,191		August 20	80,268	
February 26	81,278		August 27	80,379	
		323,915			321,437
March 5	80,934		September 3	80,099	
March 12	80,907		September 10	80,508	
March 19	80,477		September 17	80,216	
March 26	80,515		September 24	80,121	
		322,833			320,944
April 2	80,516		October 1	80,425	
April 9	80,156		October 8	80,515	
April 16	80,498		October 15	80,628	
April 23	80,736		October 22	85,569	
April 30	80,471		October 29	85,790	
		402,377			412,927
May 7	80,406		November 5	85,400	
May 14	80,573		November 12	85,253	
May 21	88,963		November 19	85,468	
May 28	80,491		November 26	85,347	
		330,433			341,468
June 4	80,417		December 3	85,358	
June 11	80,472		December 10	80,481	
June 18	80,394		December 17	80,813	
June 25	80,442		December 24	80,532	
		321,725	December 31	80,644	
					407,828
Total		4,312,861			
Weekly average		81,374			

TREASURER'S REPORT

Report of the Treasurer of the American Medical Association for the year ending December 31, 1921

ASSOCIATION RESERVE FUND

Reserve Fund as at December 31, 1920		$295,554.41
Interest—Bonds	$12,745.00	
Interest—Uninvested balance	373.19	
		$ 13,118.19
Reserve Fund as at December 31, 1921		$308,672.60

TREASURER'S GENERAL ACCOUNT

Balance as at December 31, 1921	$ 265.34

DAVIS MEMORIAL FUND

Bonds as at December 31, 1920		$ 3,708.25
Bank Balance December 31, 1920	$ 138.79	
1921 Interest on Bonds	170.00	
1921 Interest on Bank Balance	6.11	
		$ 314.90
Total Fund as at December 31, 1921		$ 4,023.15

AUDITOR'S REPORT

CHICAGO, January 30, 1922.

To the Board of Trustees,
American Medical Association, Chicago, Illinois.

Dear Sirs:

In accordance with your instructions, we have audited the accounts of the American Medical Association for the year ended December 31, 1921, and have prepared therefrom the following statements which are appended hereto.

Balance Sheet as at December 31, 1921..... Exhibit "A"
Income Account for the year ended December 31, 1921..... Exhibit "B"
Journal Operating Expenses—Year 1921....Schedule "1"
Association and Miscellaneous Expenses—Year 1921 .....Schedule "2"

The Balance Sheet submitted properly presents, in our opinion, the financial position of the Association as at December 31, 1921, and the Income Account, the results of the operations of the Association for the year then ended; subject to the remark that no provision has been made for accrued interest, taxes and "Journal" subscriptions paid in advance, and that no valuation has been placed on subscriptions and memberships due and unpaid.

We verified the cash in bank by certificates received from the several depositories and that on hand by actual count. We also inspected the securities for the investments of the Association Reserve Fund and found them in order; these securities are stated at cost, without regard to the market value prevailing at December 31, 1921.

The Surplus Fund of the Association has increased since December 31, 1920, $132,658.73, representing the net income for the year 1921. This increase is spread over the assets and liabilities as follows:

Increase in Fixed Assets		$ 4,222.05
Increase in Current and Working Assets		200,878.09
		$205,100.14
Less:		
Decrease in Prepaid Expenses	$53,072.66	
Increase in Accounts Payable	14,891.03	
Increase in Advance Payments	4,477.72	
		$ 72,441.41
Net Increase		$132,658.73

During the course of the audit we made an exhaustive test of the various sources of income and verified the expenditures against properly approved vouchers on file. We are pleased to report that the accounts are well and accurately maintained.

Yours truly,

MARWICK, MITCHELL & Co.

EXHIBIT "A"

BALANCE SHEET AS AT DECEMBER 31, 1921

ASSETS:			
Property and Equipment at Cost, less Depreciation:			
Real Estate and Buildings			$195,337.88
Machinery			52,402.49
Type and Metal			6,862.13
Furniture and Equipment			17,035.84
Chemical Laboratory			2,142.57
Library			662.53
Total Property and Equipment			$274,443.44
Reserve Fund Investment:			
Government and Railroad Bonds—at Cost		$287,624.05	
Funds in Bank Awaiting Investment		21,048.55	
			$308,672.60
Current Assets:			
Cash in Bank and on Hand		$ 36,361.51	
U. S. Government Securities		200,000.00	
Notes Receivable		1,546.72	
Accounts Receivable:			
Advertising	$61,402.74		
Cooperative Medical Advertising Bureau	6,946.47		
Reprints	4,110.93		
Miscellaneous	10,371.52		
		$ 82,831.66	
Inventory of Materials, Supplies and Work in Progress		$ 74,995.97	
			$395,735.86
Prepaid Expenses:			
Insurance Premium		$ 2,132.99	
Session—1922 Expenses		726.45	
			$ 2,859.44
Total			$981,711.34
LIABILITIES:			
Accounts Payable:			
Cooperative Medical Advertising Bureau			$ 5,077.52
Miscellaneous			30,568.31
			$ 35,645.83
Advance Payments on Publications			15,039.21
Association Reserve Fund (invested as noted above):			
Amount thereof as at December 31, 1920		$295,554.41	
Interest received on Bonds owned and uninvested cash—Year 1921		13,118.19	
			$308,672.60
Surplus Fund:			
Amount thereof as at December 31, 1920		$489,694.97	
Net Income for the Year ended Dec. 31, 1921		132,658.73	
			$622,353.70
Total			$981,711.34

EXHIBIT "B"

INCOME ACCOUNT

FOR THE YEAR ENDED DECEMBER 31, 1921

JOURNAL:			
Gross Earnings:			
Fellowship Dues and Subscriptions			$ 451,711.85
Advertising			569,078.88
Jobbing			17,663.81
Reprints			6,287.84
Books			9,999.23
Insignia			4,394.98
Miscellaneous Sales			9,085.53
Interest			8,540.49
Gross Earnings from JOURNAL			$1,076,762.61
Operating Expenses, Schedule "1"			826,576.25
Net Earnings from JOURNAL			$ 250,186.36
Miscellaneous Income:			
Rents		$ 3,000.00	
Special Journals		6,768.94	
Cooperative Medical Advertising Bureau		672.56	
Miscellaneous		15,436.97	
			$ 25,878.47
Net Earnings from JOURNAL and Mis. Income			$ 276,064.83
Association Expenses, Schedule "2"		$92,238.51	
Less—Session 1921		2,237.50	
		$90,001.01	
Miscellaneous Expenses, Schedule "2"		53,405.09	
			$ 143,406.10
Net Income			$ 132,658.73

SCHEDULE "1"

JOURNAL OPERATING EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1921

Wages and Salaries			$325,157.96
Editorial, News and Reporting			10,812.83
Paper—JOURNAL Stock			292,973.73
Paper — Miscellaneous			16,939.97
Electrotype			15,638.67
Binding			437.94
Ink			8,138.56
Postage—First Class			21,757.66
Postage—Second Class			38,673.22
JOURNAL Commissions			8,039.90
Collection Commissions			1,157.06
Discounts			20,092.38
Express and Cartage			3,892.42
Exchange			3,814.37
Office Supplies			1,552.06
Telephone and Telegraph			1,634.92
Office Jobbing			7,066.32
Power and Light			4,384.88
Fuel			4,856.32
Factory Supplies			11,086.49
Repairs and Renewals—Machinery			4,180.14
Bad Debts—Net			1,763.53
Miscellaneous Operating Expenses			13,598.60
			$817,649.93
Depreciation of Property and Equipment:			
Machinery	10%	$5,822.50	
Furniture and Equipment	10%	1,513.84	
Factory Equipment	10%	479.03	
Type	15%	508.50	
Metal	15%	702.45	
			$ 8,926.32
Total			$826.576.25

SCHEDULE "2"

ASSOCIATION AND MISCELLANEOUS EXPENSES

FOR THE YEAR ENDED DECEMBER 31, 1921

Association Expenses:	
Association	$ 32,487.22
Health and Public Instruction	12,828.67
Pharmacy and Chemistry and Chemical Laboratory	21,864.91
Medical Education and Hospitals	20,825.78
Organization	3,373.03
Therapeutic Research	620.84
Laboratory Depreciation—10%	238.06
Total Association Expenses	$ 92,238.51
Miscellaneous Expenses:	
Insurance and Taxes	$ 8,814.03
Legal and Investigation	678.00
Sundry Publications	18,738.03
Building "B" Depreciation—5%	7,196.52
Building "B" Expense	2,605.94
Library Depreciation—10%	73.62
Miscellaneous	15,298.95
Total Miscellaneous Expenses	$ 53,405.09

Report of the Judicial Council

Dr. M. L. Harris, Illinois, Chairman, presented the report of the Judicial Council, which was referred to the Reference Committee on Report of Officers:

To the Members of the House of Delegates of the American Medical Association:

During the past year, the Judicial Council has received a number of communications asking for opinions on subjects dealing largely with questions of ethics. In the majority of instances, it has felt obliged to refrain from giving opinions for the reason that the subject matter presented did not properly come within the jurisdiction of the Council as now defined in the By-Laws of the Association. The fact that so many communications of the character mentioned have been received is an indication that the idea is rather prevalent that it is a function or a duty of the Judicial Council to act in such matters. It also indicates the need of some tribunal to which members or Fellows and local or state organizations may appeal for opinions on matters of an ethical nature which may affect members of the profession, individually or collectively, or which may involve their relations to the public.

Logically, it would seem that all such matters should be referred to the Judicial Council and that authority should be given the Council in the By-Laws to act. Should the House of Delegates concur in this view, we recommend that the By-Laws be amended so as to extend the jurisdiction of the Judicial Council to include all such matters. It is perfectly obvious that the Judicial Council should have original jurisdiction in all matters relating to the Scientific Assembly and to Fellowship therein. We recommend, therefore, that Section 1, Article IX, of the By-Laws be amended to read:

This power shall extend to and include (1) all questions involving Fellowship in the Scientific Assembly or the obligations, rights and privileges of Fellowship; . .

the section to continue as at present except for necessary renumbering.

We also offer the following amendment to be inserted immediately preceding the final paragraph of Section 1, Article IX:

The Judicial Council shall have jurisdiction in all questions of ethics and in the interpretation of the laws of the organization.

Many of the questions submitted to the Council involve the subject of advertising. As is well known, there is a marked tendency of late for physicians to organize themselves into so-called groups under various designations or titles, such as group clinics, diagnostic clinics, group medicine, medical institutes, the (blank) medical academy, and similar names. Unfortunately some of these groups are advertising in a manner that would be considered most reprehensible if done by an individual physician. The Council has given much thought to this subject. It is unable to see any difference in principle between a group of physicians advertising themselves under whatsoever title they may assume and an individual physician advertising himself. As a result of their deliberations on the subject, the Council adopted the following resolution, which if approved by the House of Delegates is offered as an amendment to Section 4, Article I, Chapter II, of the Principles of Medical Ethics:

Solicitation of patients by physicians as individuals, or collectively in groups by whatsoever name these be called, or by institutions or organizations, whether by circulars or advertisements, or by personal communications, is unprofessional. This does not prohibit ethical institutions from a legitimate advertisement of location, physical surroundings and special class—if any—of patients accommodated. It is equally unprofessional to procure patients by indirection through solicitors or agents of any kind, or by indirect advertisement, or by furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudations defy the traditions and lower the tone of any profession and so are intolerable. The most worthy and effective advertisement possible, even for a young physician, and specially with his brother physicians, is the establishment of a well-merited reputation for professional ability and fidelity. This cannot be forced, but must be the outcome of character and conduct. The publication or circulation of ordinary simple business cards, being a matter of personal taste or local custom, and sometimes of convenience, is not *per se* improper. As implied, it is unprofessional to disregard local customs and offend recognized ideals in publishing or circulating such cards.

It is unprofessional to promise radical cures; to boast of cures and secret methods of treatment or remedies; to exhibit certificates of skill or of success in the treatment of diseases; or to employ any methods to gain the attention of the public for the purpose of obtaining patients.

There is now pending before this House of Delegates a proposed amendment to Section 2, Article V, of the Constitution to make the ex-Presidents of the Association *ex-officio* members of the House of Delegates. We recommend that the amendment read as follows:

The Trustees, the ex-Presidents of the Association and the members of the several Councils shall be *ex-officio* members of the House of Delegates without the right to vote, provided that members of the Councils who are also elected delegates may exercise all of the rights of elected delegates.

ADVERTISING MEDICAL INSTITUTIONS

There was submitted to the Council an inquiry as to whether a given advertisement of a certain medical institution, which the said institution desired to run in the public press, was ethical or unethical, and if not ethical, wherein specifically it was unethical. The answer to this question cannot be based solely on the wording of the advertisement, but the advertisement must be considered in connection with the institution presenting it. It is perfectly evident that an advertisement which would be proper under one set of conditions might be highly improper under a different set. The institution in question was organized a short time ago by a group of public spirited citizens as a stock company for profit, the purpose of the organization being to treat patients suffering with venereal diseases. The advertisements carried in the lay press by the institution were for a time, to say the least, flagrant violations of medical ethics. After several interviews with the incorporators of the institution by repre-

sentative members of the medical profession, the form of the organization was changed from that of an organization for profit to that of an organization not for profit, and a desire is now expressed by the directors of the organization to have its lay advertisements conform to medical ethics.

The first question to be answered is: Is the institution itself ethical? Ethics relates to conduct. There is no difference in principle between medical ethics and ethics in general. Conduct has to do not simply with the outward or visible acts of a person, but it has a more comprehensive meaning and relates to the general line of a person's—or in this case a corporation's—moral proceedings. The proceedings, then, of this institution must be analyzed as to its effects on the people it treats, the medical profession, and the community in general. The organizers of the institution undoubtedly were of the opinion that there was a great need for just such an organization, based on the belief that there are a great many individuals suffering with venereal diseases; that these cases are not properly treated by physicians; and that there is no provision made by the profession for the treatment of those suffering with these diseases who are unable to pay the usual fees for such services. The need of such an institution is denied, on the grounds that the medical profession is perfectly competent to treat and is so treating this class of cases, and furthermore, ample provision has long been in existence for the free treatment of those persons who are unable to pay or for very nominal fees from those who may be able to pay something. Hence the need for this institution did not exist.

It was decided long ago that the practice of law by a corporation was against public policy and the same has been prohibited by law in many states. The relations between patient and physician are more intimate than are those between client and attorney. It is impossible for that intimacy of relationship to exist between an individual and a corporation, and if it is against public policy for a corporation to practice law, how much more so must it be for a corporation to practice medicine?

Many persons imbued with an altruistic spirit are often led to do things which a more careful analysis would have convinced them was not really altruistic, for that which is altruistic must be for the common good, and therefore could not be against public policy. But how can a corporation organized for the purpose of treating disease and relieving human suffering be against public policy? Certainly not in its intentions nor in the good which it might do to a few. It must be, therefore, in the fact that the harm which it does to the community as a whole outweighs the good which it may do to a few. When an individual (or a corporation) starts out to do good he should consider carefully whether the immediate good done is not more than outweighed by ultimate harm to those supposed to be benefited as well as harm to those composing another group in society, or to society as a whole. In the present case, the institution does harm to the individual, to the medical profession, and to the community. No direct harm can be said to be done to the individual by treating him for his venereal disease free or for a very nominal sum if he is honestly unable to pay for his services, but when this same treatment is given to individuals who are able to pay legitimate fees to physicians as is constantly being done by this institution, then great harm is done, not only to the individual, but also to physicians and to the community. To give at public expense that for which the individual is able to pay is an ultimate harm, notwithstanding the fact that to some it may appear to be an immediate good. It is not a charity to provide for those who are able to provide for themselves because it relieves those individuals of a part of their obligations in life which it is their duty to fulfil. It certainly needs no argument to show that mistaken charity of that kind, if carried to any extent, must inevitably lead to decadence of the people.

The direct harm done the medical profession by an institution of this kind cannot be overlooked, nor is it an evidence of selfishness on the part of physicians to attempt to defend themselves against such gross injustice. If it be admitted —and we think no one will attempt to deny it—that men possessed of superior medical knowledge are essential to the welfare of the community, it must be granted that anything which is detrimental to the profession unless it contribute to the public good—such as all forms of preventive medicine, etc.—must be detrimental to the community as a whole. It is well known that the medical profession has always been foremost in every thing which would in any way contribute to the prevention of disease and human suffering, and it has never failed to respond willingly and freely to the needy sick, but it should not be forgotten—which sometimes seems to be the case—that it costs more time, effort and money for a physician to become competent in his profession, and to keep up with the rapid advancements of knowledge, than it does one in any other line of human endeavor. Such an investment is certainly entitled to a reasonable return. No business man would think of putting the same amount of energy and money into an enterprise without the hope and expectation, and in fact without the certainty so far as business acumen could figure out, of ample financial returns. Why then should a group of business men themselves engaged in lucrative pursuits deliberately attempt to deprive medical men of a legitimate return on their investment? They are hiring young physicians and paying them compensation for their services, which they then give or sell for a nominal price to many who are able to pay a legitimate fee to regular physicians. We grant that they believe they are doing that which is for the public good, but we believe that if they will analyze the question in all its sociological aspects, they will see their error.

It is neither charity nor is it justice to take from one class that to which they are entitled and give it to those who are undeserving of it. Much more might be said concerning the character of the work done by this institution and its harmful effect on the community in general, but we believe that sufficient facts have been brought out to warrant us in expressing our opinion that the said institution is acting against public policy and therefore cannot be considered ethical. There is no difference in principle between lawful and unlawful and ethical and unethical. That which is unlawful cannot lawfully advertise its business, and that which is unethical cannot ethically advertise its business, be the wording of the advertisement what it may.

Respectfully submitted.

M. L. HARRIS, Chairman, I. C. CHASE,
RANDOLPH WINSLOW, J. N. HALL,
WILLIAM S. THAYER, A. R. CRAIG, Secretary.

Report of the Council on Health and Public Instruction

Dr. Victor C. Vaughan, Washington, D. C., Chairman, presented the report of the Council on Health and Public Instruction, which was referred to the Reference Committee on Reports of Officers.

The report follows:

To the Members of the House of Delegates of the American Medical Association:

The Council has continued during the past year, to develop, so far as possible, its program as outlined in previous reports and as approved by the House of Delegates.

The function of the Council as stated in the By-Laws includes: (1) defense of scientific research; (2) legislation; (3) public health, and (4) education of the public.

DEFENSE OF RESEARCH

Under the first heading the Council, through its Committee on Defense of Scientific Research, has kept track of any efforts for the passage of bills in various legislative bodies restricting scientific investigation. The so-called "Meyers Dog Bill," which was adversely reported on by the Senate committee at the last session of Congress, was reintroduced at the present session, but no serious effort has been made to pass it. The usual antivivisection bill introduced in the New York legislature made no headway. In Colorado, an antivivisection bill has been ordered on the ballot at the November election by petition, and will be subject to a

referendum vote. The Council has cooperated with the state committees in each state in which legislation along this line was proposed.

One of the most valuable contributions to the popular literature on this subject appeared in the *Woman's Home Companion* for July, 1921, in the form of an article by Mr. Ernest Harold Baynes, the well known naturalist and animal lover. The publication of this article, which was due entirely to the broad-mindedness and personal courage of Miss Gertrude B. Lane, editor of the *Woman's Home Companion*, created a marked sensation, as it exposed the dishonesty and ignorance of the professional antivivisection agitators. Following the publication of this article, Miss Lane was deluged with letters of approval. These letters have been turned over to the Secretary of the Council, and a reprint of Mr. Baynes' article, containing some of the most representative letters on both sides, is now being prepared. The Council recommends that a resolution of appreciation and thanks to Mr. Baynes and Miss Lane be formally adopted and entered on the records.

The Committee on Defense of Medical Research as early as 1909 formulated a series of rules regarding the treatment of animals in experimental work which have been formally adopted as a code of conduct in every medical school and medical research institution in the United States. During the past year these rules have been adopted in nearly all the veterinary schools in the United States where animal experimentation is carried on and by the boards of health in twenty-eight states.

Another activity of the Committee on Defense of Medical Research that has been carried on during the past year has been the securing of adherence to an "Open Door" policy. One of the most effective statements made by antivivisectionists to arouse feeling against animal experimentation is that it is conducted "in secret," "behind locked doors," where no outsider can know the "cruelties" that are being inflicted. In a number of the larger institutions throughout the country where medical research was being actively carried on, this charge had been met by a public declaration that responsible officials of humane societies were welcome to the laboratories and would be shown the work that was going on. In one institution a proviso was made that the persons invited to the laboratories must first have seen an operation on a human being. Since the rules regarding animals had been universally adopted in medical schools and medical research institutions it was felt that the next step in strengthening the position of medical investigators before the public was to show that there was no reason for the antivivisectionists' slogan, "Open Door." Accordingly efforts were made to learn whether institutions in which animal experimentation was being carried on would admit as visitors accredited members or responsible officials of humane societies. The response to these efforts has been most gratifying.

Returns have now been received from every medical school in the United States except one, and from all the medical research institutions, agreeing to the "Open Door" policy. In some instances the requirement of previously witnessing an operation on a human being is made a condition for visiting the laboratories. In all places the laboratories are open to representatives of humane societies at any time. This agreement on the part of laboratory directors and faculties of medicine throughout the country emphasizes the claim, which the defenders of research have repeatedly made, that animal experimentation is subject to the ordinary procedures of the law against cruelty to animals. It also effectually removes the basis for suspicion that there is something secret about the work done in medical laboratories.

The committee feels that medical research is in a very strong position throughout the country and that any claim for special legislation hostile to animal experimentation can now be effectively met.

Legislation

National Legislation Proposed During the Year

Legislation of any kind in this country naturally divides itself into federal and state legislation. During the past year Congress has been in session practically all of the time with the exception of a few brief recesses. As usual, many bills have been introduced bearing on public health and on questions of interest to physicians. The following tabulation includes the more important bills presented on these subjects:

H. R. 4.—Pensions for Nurses in Spanish War; passed House, Feb. 1, 1922.
H. R. 22.—Promotion of Physical Education; Mr. Fess; April 11; Education.
H. R. 116.—Issuance of Doctors' Licenses to Practice in All States; Mr. Mason; April 11; Interstate and Foreign Commerce.
H. R. 258 }
H. R. 259 } Investigation of Narcotic Addition in U. S.; Mr. Volk; Jan. 4, 1922.
H. R. 2366.—Protection of Maternity and Infancy; Mr. Towner; April 12; Interstate and Foreign Commerce.
H. R. 2918.—Regulation of Osteopathy, D. C.; Mr. Smith; April 13; District of Columbia.
H. R. 4104.—Free Distribution of Antirabic Virus; Mr. Baker; April 18; Appropriations.
H. R. 4109.—Destruction of Animals Affected with Rabies; Mr. Baker; April 18; District of Columbia.
H. R. 4118.—Prevention of Venereal Diseases, D. C.; Mr. Baker; April 18; District of Columbia.
H. R. 5033.—Supplemental to National Prohibition Act; Mr. Volstead; April 25; Judiciary (see also H. R. 6752; H. R. 7294).
H. R. 5680.—Free Postal Privileges for Literature of State Health Departments; Mr. Clark; May 3, 1921; Post Offices and Post Roads.
H. R. 6566.—Reductions on Income Tax for Medical Expenses; Mr. Rosenbloom; May 24; Ways and Means.
H. R. 7159.—Authorizing Former Army Medical Officers to Practice in Any Territory; Mr. Patterson; June 15.
H. R. 7294.—Supplemental to National Prohibition Act; became a Law, Nov. 18, 1921.
H. R. 7570.—Regulation of Optometry, D. C.
H. R. 8566.—To Recognize and Promote Efficiency in the U. S. Public Health Service; Mr. Dyer; October 7; Interstate and Foreign Commerce.
H. R. 9234.—Sutures and Surgical Ligature Material in Interstate Commerce; Mr. Johnson; Nov. 21, 1921; Interstate and Foreign Commerce.
H. R. 9291.—To Reorganize and Promote the Efficiency of the U. S. Public Health Service; Mr. Dyer; Dec. 5, 1921; Interstate and Foreign Commerce (see H. R. 9775).
H. R. 9490.—Medical Service for Coast and Geodetic Survey; Mr. Winslow; Dec. 12, 1921; Interstate and Foreign Commerce.
H. R. 9546.—Accident Compensation, D. C.
H. R. 9775.—To Reorganize the U. S. Public Health Service; Mr. Newton; Jan. 6, 1922; Interstate and Foreign Commerce.
H. R. 10030.—Promotion of Safety of Employees and Travelers upon Railroads; Mr. Bland; Jan. 20, 1922; Interstate and Foreign Commerce.
H. R. 10075.—Deportation of Aliens Convicted of Traffic in Drugs or Narcotics; Mr. McArthur; Jan. 23, 1923; Immigration and Naturalization.

Senate Bills

S. Joint Res. 130.—Monument to General Gorgas; Mr. Heflin; October 20; Library.
S. 206.—Prohibition of Exportation of Opium; Mr. Jones; April 12; Finance.
S. 408.—Department of Social Welfare; Mr. Kenyon; April 12; Education and Labor (see also S. 1607).
S. 525.—Sanitary Reserve Corps in U. S. Public Health Service; Mr. Owen; April 12; Military Affairs.
S. 526.—Department of Health; Mr. Owen; April 12; Appropriations.
S. 624.—Regulation of Chiropractic, D. C.; Mr. Fletcher; April 13; District of Columbia.
S. 749.—Regulation of Osteopathy, D. C.; Mr. Capper; April 13; District of Columbia.
S. 758.—Prohibiting Experiments on Living Dogs, D. C. and Territories; Mr. Meyers; April 15; Judiciary.
S. 812.—Regulation of the Practice of Medicine in D. C.; Mr. Cummins; April 13; District of Columbia (see also S. 2283).
S. 1039.—Protection of Maternity and Infancy, Mr. Sheppard; April 21; Education and Labor; passed, July 22.
S. 1039.—(Sheppard-Towner Bill) Promotion of the Welfare and Hygiene of Maternity and Infancy; became Law, No. 23, 1921.
S. 1588.—Prevention of Venereal Diseases, D. C.; hearings, October 13 and 20.
S. 1591.—Amendment of Incorporation of D. C. Medical Society; passed Senate, Dec. 9, 1921.
S. 1607.—Department of Public Welfare; Mr. Kenyon; May 5; Education and Labor; No. 3.
S. 1839.—Department of Public Welfare; Mr. McCormick; May 18; Education and Labor.
S. 2822.—Practice of Optometry, D. C.
S. 2283.—Regulation of Practice of Medicine and Midwifery, D. C.; Mr. Ball; July 19, District of Columbia.
S. 2764.—To Reorganize and Promote Efficiency in the U. S. Public Health Service; Mr. Watson; Nov. 22, 1921.
S. 3113.—Reducation of Number of Army Officers; Mr. Wadsworth; Feb. 3, 1922; Military Affairs.
S. 3120.—Deportation of Aliens Convicted of Traffic in Drugs and Narcotics; Mr. McNary; Feb. 3, 1922; Immigration.
S. 3078.—Free Transmission Through the Mails of Certain Publications for the Blind.

STATE LEGISLATION

Since January 1, the state legislatures have been in session in twelve states. These are:

New York	Massachusetts	New Jersey
Rhode Island	Virginia	Maryland
South Carolina	Georgia	Mississippi
Louisiana	Kentucky	New Mexico

In addition, the legislature will meet in Louisiana in May, and in Georgia in June. While many bills have been introduced in the state legislatures, no measure of importance to the medical profession of the country has been enacted.

This being the off year for the meetings of legislatures, the amount of legislation in general and of public health legislation in particular is naturally very much less than in the years in which most of the state legislatures hold their sessions. During the coming year of 1923, the legislature will meet in forty-three states and the amount of legislative matter bearing on public health and subjects of interest to physicians and, in fact, to the medical profession as a whole will be much greater than this year.

At the time of the creation of the Council at the St. Louis session in 1910, the legislative committee consisted of three members, appointed by the President, to which was added an auxiliary committee, consisting of one member in each state. At the Atlantic City session, held the previous year, as members of the House of Delegates will recall, it was proposed to unite in one permanent council all the existing committees and boards having to do with legislation, public education, organized defense of scientific research, etc. This action was taken at St. Louis in 1910. In the organization of the Council, legislation was made one of its functions. This has been one of the activities of the Council for the last twelve years. As its annual reports to the House of Delegates will show, it has repeatedly discussed legislative matters.

The question of the legislative policy of the American Medical Association came up squarely in the House of Delegates at the Minneapolis session in 1913, three years after the organization of the Council, at which time the question came before the House in the conflicting recommendations of the Council and of the Special Committee on a National Department of Health, as to whether the Association should take an active and aggressive attitude on legislative matters, organizing its members for the purpose of influencing legislation and maintaining a lobby in Washington for the promotion of legislative questions in which it was interested, or whether it should adopt the opposite policy of investigating proposed legislation and advising state societies and educating the public as to its advisability, leaving it to the legislative bodies to follow its advice or not as they saw fit. As members of the House of Delegates who were present at the Minneapolis session will recall, the policy of the Council was sustained by an overwhelming vote, and the House of Delegates definitely went on record as opposed to any expenditure of money for lobbying or for the influencing of legislation. This declaration on the part of the House of Delegates, which is found in the report of the Committee on Legislation and Political Action for the 1913 session, still stands as the approved policy of the Association on this subject.

Law is of two kinds, statutory and decisional. Statutes are specific acts adopted by legislative bodies. Decisions are rulings handed down by courts on the application of either statutory or common law to specific cases. The only decisions of special value are the decisions of supreme courts, since the decisions of lower courts may be and frequently are overruled. The difference between the function of the courts and the function of the legislature is very distinct. As an eminent judge once said in a decision, "It is the function of the courts to say what the law is and what it means. It is the function of the legislature to say what the law shall be." It is also the function of the court to say whether or not any particular statute is constitutional. Every legislative enactment may and frequently does come before a supreme court for a decision not only as to its constitutionality but also as to its actual meaning. The result is that the body of court decisions on a given subject forms the foundation for successful legislation. To attempt to draft a bill on any subject without knowing what the courts have already held to be sound law is to run the risk of putting in the bill provisions which the courts have already thrown out as unconstitutional. This field has been neglected by both the medical and the legal professions. Recognizing this situation, one of the first recommendations of the secretary of the Council, on its organization in 1910, was that the Council authorize the preparation of four digests on case law. This work the secretary has carried on as time permitted, for the last twelve years. The digest of supreme court decisions on "State Regulation of the Practice of Medicine," was completed and published in 1914. A digest of supreme court decisions on "Personal Responsibilities of Physicians" based on 3,000 supreme court decisions is now in the printer's hands. The third volume, containing aproximately 2,000 decisions on the "Powers and Duties of Health Agencies," is now compiled and ready for the printer. The fourth volume, on "Professional Malpractice," is still to be compiled, although most of the decisions on this subject have been collected. This material, if utilized, will be the foundation of an intelligent legislative program.

Regarding the distribution of information, this should come from a central and authoritative source and should be as widely distributed as possible. The National Health Council as stated in the Council's report to the House of Delegates for 1921, includes the ten leading national public health organizations of the country. It has undertaken as one of its activities the publication of a biweekly legislative bulletin, issued from the Washington office of the Council, containing information regarding all bills introduced in Congress or in any of the state legislatures, on all topics of interest to physicians and public health workers. The Council has subscribed for copies of this bulletin to be sent to the officers of the American Medical Association and of the state societies, in order that all those interested in legislative matters may secure accurate and complete information from the same sources.

Regarding the organization of machinery to carry on this work, the secretary at the November, 1921, Conference of State Secretaries proposed the following plan, which involves the coordination of existing rather than the creation of any new machinery:

1. A State legislative committee of which the chairman shall be the member of the National Legislative Committee. Each state committee made up of as many members as may be advisable but including the president, the secretary and the attorney for the state society as ex-officio members. This committee should have permanent headquarters and the necessary equipment to carry on its work.

2. The National Legislative Committee, made up of the chairmen of the state legislative committees, to meet at least once a year with the Council to map out a program for the coming year. The expenses of the committeemen in attending this conference to be paid either by the American Medical Association or the state society or both. This National Legislative Committee would be to the A. M. A. what the Republican and Democratic National Committees are to their parties.

3. The Council on Health and Public Instruction of the American Medical Association as the legislative committee of that body, charged with the responsibility for formulating the policy of the Association on national questions and of maintaining at the headquarters office a legislative laboratory in which material on legislative questions can be prepared for state legislative committees.

4. Frequent joint meetings of the legislative committees of neighboring states to be attended by the officers and committees of the groups of states and by the secretary of the Council for the discussion of conditions and plans. These conferences to be held long enough before the meetings of the state legislatures to allow ample time for carrying out any plans agreed on. The expenses of the members in attending these meetings to be paid by the A. M. A., the state societies paying a part, as and when they may be able to do so. These conferences would enable the state committees to agree on a united plan of action and would make it possible for the secretary of the Council to learn at first hand of conditions in each state and to tell each committee or group of committees what was going on in other states.

In accordance with this plan, the secretary arranged three conferences of the state legislative committees of those states in which the legislature was to hold sessions during the past winter. The legislative committee in each state was asked

to participate in a joint conference, the traveling expenses of the members to be paid by the American Medical Association. The first conference was held in Baltimore, Dec. 28, 1921, being attended by the members of the legislative committees of the state medical societies of Maryland, Virginia and South Carolina. The second conference was held in New York City, the following day, December 29, at the Hotel Belmont. Members of the legislative committees from New York, Massachusetts, New Jersey and Rhode Island were present. The third conference was held in New Orleans, Thursday, Jan. 12, 1922, being attended by the members of the legislative committees of Louisiana, Mississippi, and Georgia.

At each of these conferences, the secretary presided and stated the object of the meeting, later calling for reports from the chairmen of each committee and for the personal views of each member present. The effect of these conferences was excellent, leading to a better understanding and showing the possibilities of closer cooperation between the headquarters office of the American Medical Association and the various state associations. The Council recommends that these conferences be continued and that plans be formulated for holding meetings of groups of state legislative committees between now and the first of January, 1923.

Narcotic Drug Committee

In its report to the House of Delegates at the Boston session, the Council presented the report of the Committee on Narcotic Drugs. The House of Delegates, in accordance with the recommendation of the reference committee, endorsed this report and recommended the continuance of the committee. The committee was accordingly continued. Dr. Haven Emerson, chairman of the committee, reports as follows:

Subcommittee on Narcotic Drugs: This committee has been active since September, and has had numerous meetings. March 2, a conference of twenty-seven representatives of the various professions and trade interests concerned in narcotic drugs was held in New York City, and as a result of that, an agreement was reached practically identical with the opinions expressed by the committee in its report last June, with regard to the contents of a model state antinarcotic drug law. A drafting committee is now at work, and within the next month or so the text of a proposed model law will be available for presentation to the Council.

Sects in Medicine

In its report to the House of Delegates at the Boston session, the Council asked that it be authorized to appoint a committee on sects in medicine. This request was approved, and the Council accordingly appointed as a committee Dr. J. B. Nichols, Washington, and the secretary of the Council. The committee is preparing a report which will be submitted later.

Smallpox and Vaccination

At the Boston session, the Council requested that it be authorized to appoint a committee to study the entire subject of the value of vaccination as a means of preventing smallpox. This recommendation was approved by the House of Delegates. The Council accordingly appointed a committee consisting of Dr. Haven Emerson, New York, Dr. George W. McCoy, Washington, D. C., and the secretary of the Council. Dr. Haven Emerson, chairman of the Committee, reports as follows:

Smallpox and vaccination: The subcommittee has met, discussed the general plan of the several leaflets to be published and has accumulated considerable material, but has been unable up to the present time to prepare text for publication.

Conference on Public Relations

In its report to the House of Delegates at the Boston session, the Council asked the House of Delegates to authorize it to call a conference in June or during the summer, at which would be discussed the present relations between the public and the medical profession with a view to formulating a plan for the organization of the public for health work. For various reasons, it did not seem wise to attempt to hold this conference during the summer. At the meeting of the Council in New York, Nov. 18, 1921, the secretary recommended that the question of the organization of the public be made the subject of the program for the midwinter conference. This recommendation being approved by the Council the following program was presented at the midwinter conference:

THURSDAY, MARCH 9, 1922

MORNING SESSION

The Organization of the Public for Cooperation with the Medical Profession

Address, Victor C. Vaughan, M.D., Chairman, Council on Health and Public Instruction, Washington, D. C.
Lessons of the Past, Frederick R. Green, M.D., Secretary, Council on Health and Public Instruction, Chicago.
Organizing Physicians for the Conservation of Public Health, Holman Taylor, M.D., Secretary, State Medical Association of Texas.
Discussion.

AFTERNOON SESSION

Public Health from a Layman's Standpoint, Walter A. Jessup, President, Iowa State University, Iowa City, Iowa.
Organizing the Public with Physicians as Leaders, F. E. Sampson, M.D., President, Iowa State Conference of Social Work, Creston, Iowa.
Organizing Our State Societies for the Protection of Public Health, J. H. J. Upham, M.D., Chairman, Committee on Public Policy and Legislation of the Ohio State Medical Association, Columbus, Ohio.
Periodic Health Examinations, the Physician's Opportunity and Obligation, Haven Emerson, M.D., New York.
Discussion.

Health Problems in Education

The Committee on Health Problems in Education has been continued, with Dr. John M. Dodson, Chicago, as chairman. The report of this Committee is presented herewith as a subcommittee report.

Cancer Committee

At the meeting of the Council held in New York, Nov. 18, 1921, the Council authorized the appointment of the following committee to prepare material for the instruction of the medical profession on the "Early Signs and Symptoms of Cancer and Pre-Cancerous Conditions." The members of this Committee are: chairman, Dr. Joseph C. Bloodgood, Baltimore; Dr. John G. Clark, Philadelphia; Dr. R. B. Greenough, Boston; Dr. W. J. Mayo, Rochester, Minn.; Dr. E. A. Codman, Boston; Dr. D. C. Cheever, Boston; Dr. J. M. T. Finney, Baltimore; Dr. Harvey Cushing, Boston; Dr. Dean Lewis, Chicago; Dr. John Da Costa, Philadelphia, and Dr. J. B. Squier, Jr., New York. The report of this committee will appear later.

Educational Material Issued from May 1, 1921, to May 1, 1922

The following charts, pamphlets, cards, etc., have been printed:

Baby Welfare (Charts)			
Anthropometric Tables		3,000	
Posters		400	
Score Cards		20,000	
Total Charts			23,400
Baby Welfare (Pamphlets)			
Save the Babies		40,000	
Summer Care of the Babies		1,000	
			41,000
Conservation of Vision:			
III		1,000	
IV		1,000	
VII		1,000	
X		1,000	
XIII		1,000	
XV		1,000	
XVII		1,000	
			7,000
Health and Education:			
Health Essentials			10,000
Public Health:			
Cancer:			
I	1,000		
II	1,000		
III	1,000		
V	1,000		
VI	1,000		
VIII	1,000		
IX	1,000		
X	10,000		
		17,000	
Hookworm		20,000	
House Fly		1,000	
What You Should Know About Tuberculosis		32,500	
			70,500
Sex Education:			
Chums		5,000	
Life Problems		2,000	
			7,000
Miscellaneous:			
Social Responsibilities of Modern Medicine		1,000	
Why Should Births and Deaths be Registered?		5,000	
			6,000
Total pamphlets			141,500

Feb. 18, 1922, the secretary of the Council presented his resignation to the Council, with the request that it be made effective, March 31, 1922. At its meeting at the time of the

midwinter conference, the Council requested the secretary to defer his resignation until after the St. Louis session. After considerable discussion, an agreement was finally reached whereby the Council voted unanimously to accept the resignation of the secretary, April 30, 1922.

Respectfully submitted.

VICTOR C. VAUGHAN, Chairman.

MILTON BOARD. HAVEN EMERSON.
WALTER B. CANNON. W. G. RANKIN.

Report of the Council on Medical Education and Hospitals

Dr. A. D. Bevan, Illinois, Chairman, presented the report of the Council on Medical Education and Hospitals, which was referred to the Reference Committee on Reports of Officers:

To the Members of the House of Delegates of the American Medical Association:

In its present report, the Council is referring to (*a*) the improvements made in undergraduate medical education up to the present time, (*b*) new problems which have arisen in medical education including the need of better facilities for graduate school instruction, and (*c*) work of the year by the Council in the organization of hospitals including a statement regarding outpatient departments, dispensaries and group clinics.

I. PRESENT STATUS OF MEDICAL EDUCATION

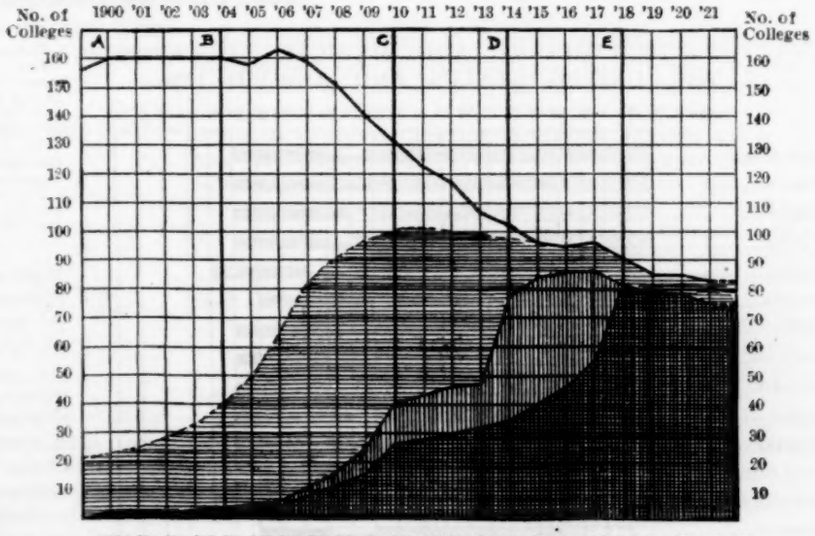
As shown in previous reports, following the close of the Civil War the number of medical schools rapidly increased until in 1906 there were 162 in the United States or more than were to be found in all the rest of the world. The educational standards, however, in 1906 were considerably lower than those in other leading countries. Based on this information, the Council in 1906 ascertained that the need was for "fewer but better medical schools." One of its first measures, therefore, was to urge (*a*) the general adoption of higher standards for admission and (*b*) the merging of medical schools in cities where two or more existed. During the eighteen years since the Council was established, therefore, the number of medical schools has been reduced from 162 to eighty-two. This was largely through the merging of from two to seven colleges into one invariably stronger institution in a score or more of cities. At the same time, a number of seriously low-grade colleges were closed outright. Along with the rapid reduction in medical colleges there was a correspondingly rapid increase in the number of colleges putting into effect the higher entrance requirement, where, in 1904, only two medical schools were requiring any college work for admission. At the present time, however, seventy-five out of the eighty-two medical schools are requiring two or more years of college work for admission—which makes the entrance requirements of medical schools of the United States equal to or slightly in advance of those in other countries. These changes are graphically shown in Chart 1.

While this chart refers mainly to the increase in entrance requirements, that increase is paralleled by the improvements in other respects in medical schools. For example, there has been a corresponding increase in the number, size and character of medical school buildings. The endowments for medical education have been rapidly increased. There has been an increase in the number of well-equipped laboratories; in the number of all-time expert teachers; in the amount of clinical material in dispensaries and hospitals—and of even greater importance—an increase in the number of medical schools which have adopted greatly improved methods of clinical instruction.

CHART 1.—FEWER BUT BETTER MEDICAL SCHOOLS

Although the total number of medical schools has been reduced, the number of those holding reasonably high entrance requirements has been greatly increased.

The total number of medical colleges each year is shown by the heavy descending line at the top. The light horizontal shading shows those which actually required a four-year high school education for admission; the vertical shading, those which required one year of collegiate work, and the heavy shading, those which required two or more years of collegiate work for admission.



	1900	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17	'18	'19	'20	'21	'22
Colleges	160	160	160	160	160	158	162	159	151	140	131	122	118	107	106	96	95	96	90	85	85	83	82
High Sch.	158	158	158	157	156	153	156	148	135	116	91	80	72	60	24	12	10	10	9	6	6	7	7
1 Yr. Coll.	..	..	..	..	..	..	1	2	5	8	13	14	16	16	44	44	38	30	1	..	..	..	..
2 Yrs. Coll.	2	2	2	3	4	5	5	9	11	16	27	28	30	31	34	40	47	56	80	79	79	76	75

Five epochs, or stages, in the campaign for improvement are indicated in the above chart. In 1900 (A) the Journal of the American Medical Association began collecting and publishing educational statistics. In 1904 (B) the American Medical Association created a permanent committee, the Council on Medical Education. In 1910 (C) the Carnegie Foundation for the Advancement of Teaching published its report on medical education. January first of that year, also, had been designated by the Council as the date when medical schools should put into effect the entrance requirement of one year of collegiate work. This was not made an essential for the Class A rating, however, until (D) Jan. 1, 1914. The entrance requirement of two years of college work was made an essential for the Council's Class A rating (E) Jan 1, 1918.

A COMPARISON WITH COUNTRIES ABROAD

A comparison of educational standards in the United States with those of other leading nations is graphically set forth in Chart 2. It is interesting to note that the line representing the age of 18 commonly separates secondary from collegiate education. In many of the countries of central Europe graduates of the secondary school go immediately into medicine. As is generally known, however, the work of the secondary schools of central Europe covers not only the work in the high schools of the United States but also that included in one and two years of college work. Between one and two years of time in this country is lost in the eight grades devoted to grammar school education. This, however, is being corrected by a rapidly increasing number of grammar schools in which students above the average are permitted to skip one or two grades and in that way are enabled to enter college at 16 or 17 years of age. The requirement of two years of college work, therefore, places medical education in this country on a par with the leading nations of central Europe.

BETTER QUALIFIED STUDENTS AND GRADUATES

With the merging of medical colleges and the general adoption of higher entrance requirements, a decrease in the number of students was expected. With the large oversupply of medical schools in 1904 there was a correspondingly large over-supply of medical students. It is not surprising, therefore, that the total number of medical students, which was 28,142 in 1904, decreased to 13,052 in 1919. It is gratifying to note, however, that the number of students in medical colleges which adopted the higher entrance requirements has increased from 1,761 in 1904 to 14,319 in 1921.

The number of students graduating also was decreased from 5,742 in 1904 to 3,192 in 1921—but at the same time, the number of those graduating under the higher entrance requirements increased from 369 in 1904 to 3,112 in 1921.

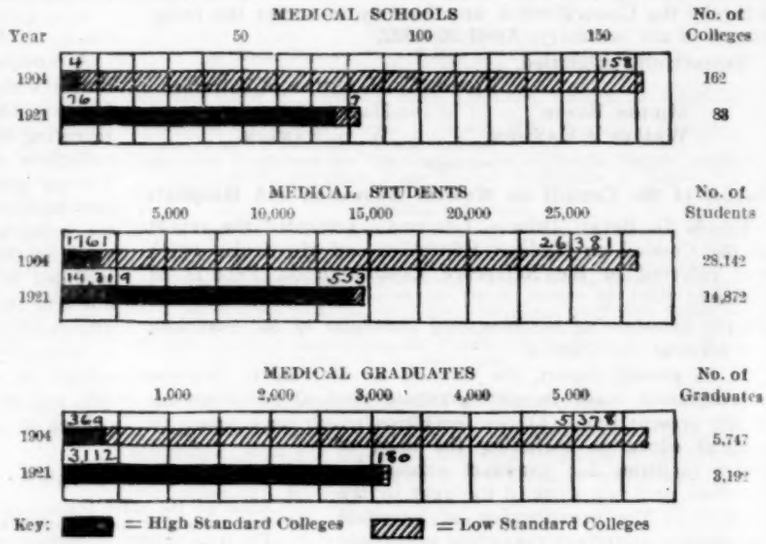
The enrolment of students by classes during the last eight years is shown in Table 2. The lowest enrolment resulting from higher entrance standards began with the freshman class entering in 1914, culminating in the lowest number of students in all classes in 1918-1919. A secondary wave of low enrolments began with the freshman class entering during the World War year, which will culminate in the smallest number of graduates at the close of the present session.

Since 1919, the enrolment has increased by about 1,000 students each year, reaching a total of 15,967 in the present session—the largest number since 1914.

II. New Problems in Medical Education and Practice

From the above it will be seen that tremendous improvements have been made in medical education during the last twenty years. Our medical schools are now in position to teach the greatly enlarged knowledge of medicine developed since the days of Pasteur and the era of medical research which began at that time.

CHART 3.—QUALITY VS. QUANTITY OF MEDICAL COLLEGES, STUDENTS AND GRADUATES

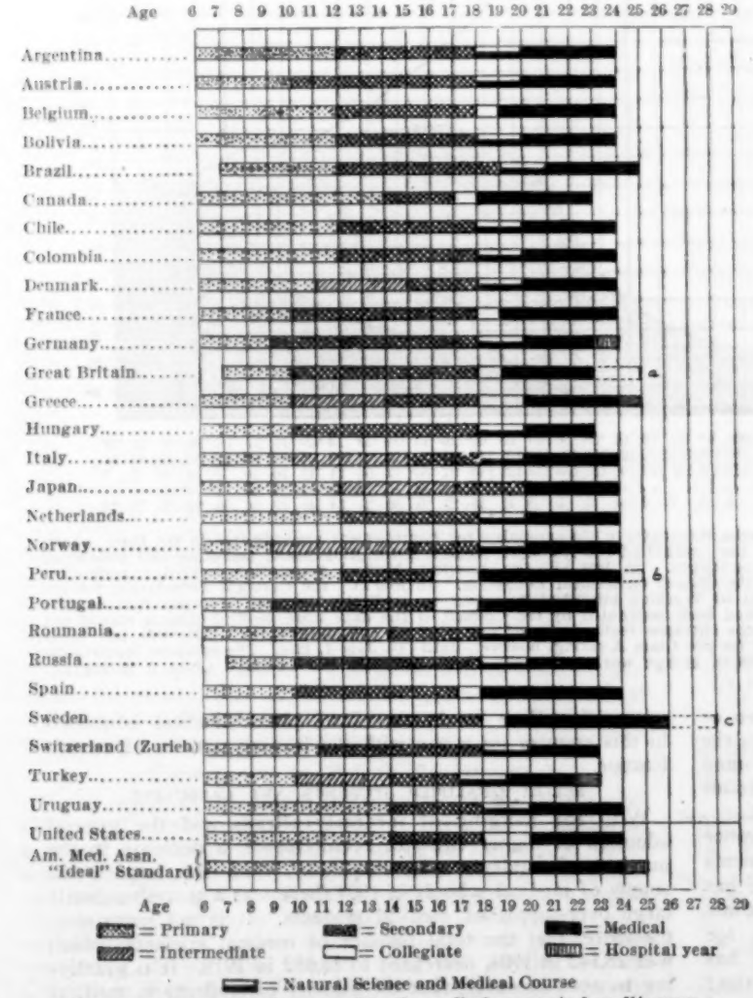


In 1904 only four medical schools required any college work for admission, while 158 (97.5 per cent.) required at most only a high school education. Now 76 medical schools require two or more years of college work for admission and only 7 (8.4 per cent.) still hold to a high school education or less.

In 1904, 1,761 students were enrolled in the high standard colleges, while 26,391 (93.8 per cent.) students were enrolled in the low standard institutions, including a large proportion who did not have a high school education. Now 14,319 students are enrolled in high standard schools, while only 553 (3.9 per cent.) are enrolled in schools having low or loosely enforced entrance requirements.

In 1904, there were only 369 students graduated from the high standard colleges, while 5,378 (93.6 per cent.) were turned out by the lower type institutions. This year, 1921, 3,112 students graduated from high standard medical schools, while only 180 (5.6 per cent.) were turned out by the lower grade institutions.

CHART 2.—PRELIMINARY AND MEDICAL EDUCATION IN THE UNITED STATES AND ABROAD—1920



a = Average time required to complete the medical course is 6 or 6½ years.
b = Some reports say medical course covers 7 years.
c = Average time required to complete the medical course is 8 or 9 years.

Medical education has indeed been revolutionized. Instead of a simple course of didactic instruction, the medical school now has an enlarged plant with its laboratories, library and museum, as well as the enlarged clinical departments including dispensary and hospital. These changes and the character of the education furnished, however, are in turn bringing about a revolution in the practice of the healing art. Indeed, several more or less serious problems have resulted largely, if not entirely, from the modern training now furnished to medical graduates, including the year of experience as an intern in a modern hospital. Some of these problems are as follows:

(*a*) Medical schools are finding it necessary to limit the enrolment of students.

(*b*) The cost of furnishing a medical education has been tremendously increased.

(*c*) There is an increasing trend toward specialization and group practice of medicine.

(*d*) There has developed a complaint regarding the lack of general practitioners, especially in the sparsely settled or rural districts.

(*e*) There is a rapid increase in the number of hospitals, which brings a greater demand for interns than can be supplied from recent medical graduates.

Limitation of Enrolments in Medical Schools

A few decades ago the medical course consisted largely of didactic lectures and no limitation of enrolments was necessary. As classes grew larger, the size of lecture amphitheaters was increased, in many instances providing seats for classes of 500 or more students. Even after laboratory courses were added, some schools provided enor-

mous laboratories particularly in anatomy and chemistry and a few colleges had laboratories large enough in which to teach, at one time, several hundred, including medical, dental and pharmacy students.

The medical curriculum has become more complex, however, and the teaching of students in small sections has become more general, especially in dispensaries and hospitals, so that a larger number of individual teachers is required, and administration is more difficult. To prevent confusion and to establish greater efficiency, therefore, it has become necessary for medical schools to admit no more students than their teachers, laboratory space, and available hospital and dispensary facilities will permit.

At the present time, 47 medical schools are limiting the number of students admitted to each class, and report a total capacity for 11,925 students. The other nineteen Class A colleges have an estimated capacity for 4,400 students, making a total capacity in the sixty-six Class A medical schools for 15,925 students.

Sixteen of the Class A medical schools report that by adding several teachers, enlarging certain laboratories, or by other minor modifications provision can be made for 1,500 more students. This would increase the capacity of the sixty-six Class A schools to 17,425 students—about 1,500 more students than are now enrolled in all existing medical schools including those in Classes A, B and C.

DO WE NEED MORE MEDICAL SCHOOLS?

The rapidly increasing numbers of well qualified students, coupled with the tendency of medical colleges to limit their enrolments, is causing some anxiety lest well qualified students

TABLE 1.—QUANTITY VS. QUALITY

	Entrance Requirements				
	Two Years of College Work		High School or Less		
Medical Colleges:	No.	%	No.	%	Totals
1904	4	2.5	158	97.5	162
1921	76	91.6	7	8.4	83
Students:					
1904	1,761	6.2	26,391	93.8	28,142
1921	14,319	96.1	553	3.9	14,872
Graduates:					
1904	369	6.4	5,378	93.6	5,747
1921	3,112	94.4	180	5.6	3,192

will be unable to secure admission to acceptable medical colleges. To meet the situation it is important that some medical schools which have placed their limits at extremely low numbers—twenty-five or thirty in a class—shall enlarge their facilities so as to admit larger numbers. It would appear that a medical school with a complete corps of instructors should be able to handle from fifty to seventy-five students in a class. The enrolment of extremely small numbers also causes a large disproportion between the fees paid by the student and the—at the present time—much larger sum expended for his instruction. Public investigations are liable to be demanded of such large expenditures, especially if many well qualified students find they cannot secure admission to medical schools. If the numbers of well qualified medical students continue to increase, the existing medical schools must provide for them or new medical schools will need to be established. We cannot afford to have so limited a capacity in our better medical schools as to force well qualified students into lower grade institutions. It is believed that the present number of medical schools is sufficient but unfortunately some are not sufficiently financed to care for as large classes as otherwise might be enrolled. In this connection, it is pleasing to note the statement of Dr. Pritchett in his recent report, that instead of aiding "only a few great medical schools" such aid be extended "to strengthen weak schools" in other communities "that sincerely seek their own improvement." A few hundred thousand dollars distributed among these smaller but deserving medical schools in the present emergency will be of far greater service to the public than additional millions given to one of the few institutions which are already so generously endowed.

THE INCREASED COST OF MEDICAL EDUCATION

During the last twenty years the cost of conducting medical schools has been tremendously increased. Buildings have been enlarged, making necessary a greater cost for lighting, heating and janitor service. A larger expenditure is necessary for administration, for records and for clerical assistance.

TABLE 2.—ENROLMENTS OF MEDICAL STUDENTS FOR EIGHT YEARS, SHOWING VARIATION IN NUMBERS BY CLASSES

College Session	Freshmen	Sophomores	Juniors	Seniors	Intern Year	Totals
1914-15	3,373	3,919	3,675	3,864	...	14,891
1915-16	3,582	3,694	3,559	3,727	...	14,022
1916-17	4,107	3,117	2,866	3,674	...	13,764
1917-18	4,283	3,521	2,893	2,933	...	13,630
1918-19	3,104	3,587	3,272	2,967	122	13,052
1919-20	4,234	2,837	3,464	3,263	290	14,088
1920-21	4,825	3,588	2,637	3,416	406	14,872
1921-22*	5,296	4,278	3,359	2,602	432	15,967

* Estimate.

The heavy line drawn through the table underscores the figures which show the lowest ebb in the enrolment in the respective classes following the adoption of higher entrance requirements. A temporary diminution in the numbers began with the freshmen in 1918-19 which was due to the enlistments in the World War. While the figures for 1921-22 are estimated they are fairly accurate since reports from all but a few colleges were obtained.

The increased number of laboratories has correspondingly increased the cost for equipment and maintenance. A larger expenditure is required also for medical research, for the maintenance of library and museum and—unless provided by city, state or private benefactors—for dispensaries and hospitals. The largest single item, however, is the expenditure for salaries paid to the essential expert instructors who devote their entire time to teaching and research in the laboratory departments. If the salaries now paid by several medical schools for full-time professors in the clinical departments are included the expense for this item is still further increased.

It is not surprising, therefore, that the cost of furnishing a medical education at the present time is nearly four times the income obtained from students' fees, even though these fees have been increased to a moderate extent.

Reports from sixty-nine medical schools in regard to income and expenditures for the last fiscal year show that the average

TABLE 3.—CAPACITY OF MEDICAL SCHOOLS UNDER LIMITED ENROLMENTS

	No. Colleges	Total Enrolment 1st Year	2d Year	3d Year	4th Year	Average Total Enrolments 4 Yrs.	Average Enrolment per College
Class A Medical Colleges:							
4-year colleges	42	3,185	2,050	2,990	2,970	11,195	267
2-year colleges	5	165	165	.....	.....	330	66
Estimated highest capacity with efficiency:							
4-year colleges	14	1,145	1,005	930	900	3,980	274
2-year colleges	5	210	210	...	...	420	84
Totals, Class A colleges	66	4,705.	3,430	3,920	3,870	15,925	691
Class B colleges:							
Capacity reported	3	120	120	125	125	490	163
Capacity estimated	3	100	100	100	100	400	133
Totals, Class B colleges	6	220	220	225	225	890	296
Totals, A and B colleges	72	4,925	3,650	4,145	4,095	16,815	234

income was $130,672 including $35,135 (26.9 per cent.) obtained from students' fees, and $95,537 from other sources.

The average expenditure by each college was $123,947 including $46,162 (37 per cent.) for all-time teachers, $21,131 (17 per cent.)—(54 per cent. for instruction) for part-time teachers, $19,068 for wages and $36,974 for maintenance and supplies.

Of these sixty-nine medical schools the average yearly fee obtained from each student was $185 and the average amount

which the medical school expended in order to furnish his instruction was $655. In 1916, the average fee paid by each student in eighty-two colleges reporting was just $150, and the average expenditure per student was $419. In the five years, therefore, the average expenditure per student has increased 56 per cent. while the tuition fee has increased only 24 per cent.

DANGERS FROM SPECIALIZATION

In recent years the number of physicians entering the specialties has been increasing. This is a normal process which naturally follows the enlargement of the field of medical knowledge. Prior to 1900, physicians became specialists usually after several years of general practice, and often after a postgraduate course in Europe.

With the present wide fields of medical knowledge and practice, no one can secure the highest degree of efficiency and skill in diagnosis and treatment unless he limits his practice to some special field of medicine.

The need of highly skilled specialists was very pronounced during the World War when they were in such great demand. Specialization, if based on a satisfactory training in both the fundamentals of medicine and in special work, is in the interests of the public and worthy of commendation.

The trend toward specialization at present appears to be overrapid and the importance of the specialist has been exaggerated to the detriment of the general practitioner. Recognizing this fact, the Council at its recent conference discussed the desirability of reorganizing the medical curriculum so as to include in the undergraduate curriculum only such courses as are necessary to prepare the graduate to be a good general practitioner, leaving all special training for the postgraduate school.

Another danger from a too rapid development of specialization is that physicians may declare themselves to be specialists without having secured the thorough additional training necessary to justify them in so doing.

It is evident from a study of this whole problem that provision should be made by the stronger medical schools of the country to provide thorough courses of graduate instruction for the specialist. It is hoped, also, that the state licensing boards will soon demand such thorough training before any physician is permitted to pose as a specialist.

MIGRATION OF PHYSICIANS TO CITIES AND NEEDS OF RURAL COMMUNITIES

There has always been a scarcity of physicians in rural communities but the situation became especially acute during the World War since many physicians left those districts to enter the government medical services and did not return after their discharge. Many of these took the opportunity to secure a postgraduate training preparatory to entering a specialty. The places in the rural communities, furthermore, have not been filled by recent medical graduates, who during the last several years have been less inclined to locate in rural districts than formerly.

TABLE 5.—URBAN OR RURAL POPULATION AND SUPPLY OF PHYSICIANS

Population of Cities [1]	No. of Cities	Total Population	Per Cent. Population	Number of Physicians [2]	Ratio of Physicians to Population	Percentage All Physicians
500,000 and above	12	16,369,310	15.5	30,932	529	21.0
200,000 to 500,000	21	6,353,645	6.1	12,862	493	9.0
50,000 to 200,000	111	9,973,402	9.4	17,254	578	12.0
10,000 to 50,000	602	12,017,783	11.4	21,204	563	15.0
5,000 to 10,000	721	4,997,794	4.7	9,313	527	6.0
Below 5,000	...	56,153,587	52.9	54,043	1,020	37.0
Totals	...	105,708,771	100.0	145,608	720	100.0
Totals in cities of 5,000 and over			47.1	91,565		

1. Population figures based on report of the Census Bureau for 1920.
2. Figures regarding the numbers of physicians are from the American Medical Directory for 1921.

Recent statistics show that physicians are following the general trend of the population toward the cities rather than to locate in rural districts but in a larger proportion. According to the 1920 census reports, 47.1 per cent. of the population of the United States is now contained in cities of 5,000 and over leaving 52.9 per cent. in communities of less than 5,000 people. According to the 1921 edition of the American Medical Directory 63 per cent. of the physicians of the United States are located in cities of 5,000 or more people, and 37 per cent. in cities and communities of less than 5,000.

From these figures it will be seen that the scarcity of doctors in rural communities is not due to a general shortage of physicians, since the scarcity in rural communities is more than offset by the oversupply in the cities. There is, therefore, no call for special methods to swell the ranks of the medical profession. As has already been shown, also, the numbers of medical students, even under the higher entrance requirements, are becoming so large as to make it difficult for medical schools to care for them. There is, therefore, no need for a retrogression in educational standards.

The causes for the shortage of physicians in rural communities are (*a*) the progress in sanitation and disease prevention has reduced the amount of sickness in the country as well as in the city; (*b*) interurban cars, improved roads, the automobile and other means of rapid transit are working against the country doctor in that well-to-do people are going more and more to physicians in nearby cities; (*c*) this leaves for the country physician only the emergency cases and those who are unable to pay reasonable fees; (*d*) practice in the country, therefore, brings a minimum income for a maximum effort; (*e*) the physician, like others, prefers to live in the city with its better schools, better living conditions, etc.; (*f*) last, but not least, comes the better facilities for the practice of modern medicine in hospitals which, at present, are found only in the cities.

NEED OF THE HOSPITAL IN PRACTICE

Over ninety per cent. of all recent graduates in medicine now secure hospital intern training before entering on the practice of medicine; they are accustomed to the use of the modern aids for the diagnosis and treatment of diseases which are found in hospitals and know the value of the hospital routine in the treatment of patients. The benefits of hospital care are coming more and more to be recognized by the public, also, which explains why many well-to-do people in the country come to the cities for treatment. The solution of this problem, therefore, is to have a hospital built in every community where there are enough people to support it. This hospital would enable three or more physicians to care for the patients in the immediate community and through the better roads and the automobile could promptly reach patients in even outlying districts. In connection with this central community, outposts might also be established in smaller, outlying localities, where a physician of the staff might keep hours at regular intervals. This would enable him to look after the general needs of that community; to recognize cases requiring hospital attention and to arrange for the needed care. The solving of this problem does not mean retrogression in either educational standards or methods of practice; it means the recognition of new conditions in medical practice and the establishing of community hospitals whereby these improved methods will be brought within the reach of all the people, those in the smaller towns and rural communities as well as in the cities.

THE UNDERGRADUATE MEDICAL COURSE

At the Council's conference in March a revision of the undergraduate curriculum was suggested in a report prepared by Dr. Ray Lyman Wilbur, an abstract of which follows:

The essential aim of the undergraduate medical curriculum is to train a student already versed in laboratory methods so he will know how to "practice medicine." The graduate in medicine should have a large fund of immediately available anatomic, physiologic and clinical information; his sense

organs should be well trained and as many facts as possible should be gathered together and given an orderly relationship. The specific problem is the development of the student's powers of observation and of rapid, honest, unbiased reasoning, based on ascertained facts.

A trained clinician on entering the sickroom has every sense alert. His eye takes in at a glance the surroundings of the patient, the evidences of care or lack of care, anxiety, repose, cyanosis, jaundice and a hundred other conditions. His ear tells him of voice changes, types of breathing. His nose adds its share; and when he touches the patient or percusses the chest, a combination of all the senses helps him to build up a mental picture of the processes going on inside the human body which years of training have taught him to know so well. All the time his mind is busy arranging the facts ascertained, calling up former experiences, measuring values, reaching conclusions, mapping out plans for additional methods of seeking information and preparing a method of treatment. When well done, such work represents the height of ordinary human achievement, and at times seems to bear the evidences of genius.

The object of the undergraduate medical years is to lay the basis for such work in medical practice. You can call it the art of medicine or the science of medicine; the two merge into one in real medical work, and a skilled technician must be the result. The main reason the present undergraduate course often fails is that we have tried to force into four short years the enormous and constantly growing fund of medical knowledge, and time should not be wasted on giving prolonged descriptions of very rare medical conditions.

The present curriculum was built up at a time when clinical teachers had no confidence in the basic training of the student, and they felt impelled to repeat fundamentals and reorient students in each so-called "course." In most medical schools even today the medical student is taught the general phenomena of inflammation by from three to fifteen teachers in different subjects. Repetition of elementary work, duplication and lack of coordination, too much informational material and rigid legal hour requirements have made the present medical school a wonderfully intricate mechanism of hours, schedules, lectures, courses, that has become scrambled, mixed up, unwieldy and inefficient. Why not scramble it entirely, look carefully over the mass, pick out the fundamentals and get a fresh start? The good preliminary training now required of medical students has eliminated many of the unfit. They now have a training in the basic sciences, and are able to do an increasing amount of independent and thoughtful work.

The fundamentals with which students must now concern themselves are: (1) sound basic training in methods of thought, memory and honest reasoning; (2) the ability to observe; (3) the ability to use books and the tools of the profession; (4) the retention of a sound body with acute trained senses, and (5) the mental accumulation of essential facts immediately available for use.

To best utilize the four brief medical years, we need in some way in training the student to combine the old apprentice system with the modern laboratory. A common standardized course for all medical schools is no longer necessary. The central core of information needed by the doctor should be selected and supplemented by the needed technical training, letting industry, books, open eyes and willing minds complete the work.

The central core of medical training must include anatomy, physiology, chemistry, bacteriology, pathology, pharmacology, clinical and laboratory medicine, including pediatrics and mental diseases, clinical and laboratory surgery, obstetrics and gynecology, hygiene and public health. We can add for good trimming the history of medicine and medical jurisprudence. If these subjects are adequately taught there will be no need to include the specialties except in an elementary way. The professors of medicine and surgery can readily bring the essentials of every specialty into their routine teaching. The student can be left time enough for optional work in his four years so that he can enter any chosen special field for additional technical training. If he learns how to examine thoroughly a single patient, he will have the principal tools and information required.

The specialties, taught as they are at present, belong outside the undergraduate medical curriculum. They can be included in the medical curriculum when they are taught by men who can range over the body instead of having their vision limited largely to body orifices. It would not be so absurd to spend a whole schedule hour of an undergraduate medical class on the technic of an operation on the inner ear, if other more important things to the student—perhaps not to the professor—were not so pressing. It must not be forgotten, however, that any complete observation and any piece of highly skilled work has its value in instruction.

Instead of elaborating new schedules, it is suggested that the number of hours allotted to the specialties be reduced or, better yet, that all specialists be promoted to the graduate school but continue to join in the teaching of the main clinical branches by presenting cases, giving lectures or, better still, by demonstrating their special field of work on patients already familiar to the students.

Pediatrics is not a specialty but is general medicine with an age limit, and offers the most important source of training for the medical student in physical examination, nutrition, therapeutics and hygiene.

Without emphasizing details, my suggestions are: (1) Begin some clinical work as early in the medical courses as is physically possible to heighten the interest of the student and give him a sense of professional training; (2) divide the last two years between general medicine and pediatrics, including mental diseases, 40 per cent.; general surgery, 30 per cent.; obstetrics and gynecology, 10 per cent.; hygiene and public health, from 5 to 10 per cent.; optional work, such as special work along general lines, thesis, work in special fields, medical jurisprudence, history of medicine, etc., from 15 to 10 per cent; (3) bring the laboratories into immediate conjunction with the clinics so that the eye of the student, still bearing the image of the anemic appearance of a patient, may see his red blood cells; (4) have the clinician cross over freely into the domains now sacred to the specialists, bringing in the specialists to help him; (5) have a committee on coordination of course content with regular reports of the ground covered by teachers to avoid duplication and to see that each class is exposed to a sufficient amount of well balanced and selected information; (6) make hospital experience with responsibility a requirement for graduation either by the intern year or by some other device. One responsibility well met, no matter what the pathologic condition, is of more value in medical training than a dozen carefully dehydrated lectures; (7) since all medical practice is of the nature of research and medicine is constantly growing, keep the spirit of research active all along the line in the medical course.

FUTURE DEVELOPMENT OF MEDICAL EDUCATION

At the last Annual Conference on Medical Education in March, Dr. Arthur Dean Bevan presented a constructive program for the future development in medical education from which the following summary is taken.

The ultimate object of medical education is to secure to every individual the great benefits of modern scientific medicine. Medicine is one of the great factors of modern civilization and in its future development proper regard must be given to its relationship to the community, to the profession and to general education.

In the last (the 1921) report of the Carnegie Foundation, President Henry S. Pritchett, who for many years has been a close and sympathetic student of medical education, says:

"The primary purpose of the medical school is to train practitioners for the medical profession. There are many by-products of this primary intention but . . . these by-products will be greatest when the medical school conceives most clearly its fundamental purpose and bends its effort most directly to it. While the development of a highly trained profession, like that of medicine, is directly dependent on the character of its professional school, and while it is

essential that the professional school shall keep clearly in view its primary purpose it is none the less essential that medical education shall keep in touch with the changing needs of the profession. To do this it must take into account those agencies of professional training that are closely related to its field of service. Without this contact it is entirely possible for the profession to be educated away from a sound conception of its immediate needs and the steps by which they are to be met. It is essential that those who have to do with the medical school shall conceive of it not only in respect to its primary purpose, but also in relation to those institutions and agencies with which the training of the medical profession is so intimately connected."

Medicine is the science and art of healing; therefore, the study of medicine is the study of the science and art of healing. It is the study of the sick or injured patient. Because of that fact the medical school should be located in and about the hospital and the dispensary, because it is there that we can best have access to the patient who is the object of study.

It is a fundamental proposition, therefore, that the medical school should be centered in and about the hospital. The laboratories and class rooms used to teach the daughter sciences of anatomy, physiology, pathology and pharmacology should be grouped about the hospital and dispensary.

The expense of conducting a hospital large enough for a teaching hospital for a medical school is very great and it should not be borne by the medical school. The primary function of a hospital is to care for the sick; its secondary functions are teaching and research. In serving its primary purpose it is doing an essential function in the community and its cost should properly be borne by the community which it serves. About the hospital should be built the laboratories of pathology, anatomy, physiology and pharmacology, so that these departments may keep in touch with the clinic and clinical problems.

In addition to the teaching hospital there should be an outpatient department, which is very essential in medical teaching, and a diagnostic clinic—such a plant as the Mayo Clinic building, where the staff of the hospital can have their consultation and examining rooms, clinical laboratories and every facility to examine and care for pay outpatients. The time has come when we should recognize such a diagnostic clinic as one of the most essential plants in our medical school scheme.

In regard to the medical curriculum proper, President Pritchett in his report says:

"The reform of the curriculum of the undergraduate medical school is one of the most pressing questions of present day medical teaching, and its accomplishment will have a larger bearing on the progress of the profession than any other single action. . . . The medical student takes up the study of certain fundamental sciences, anatomy, physiology, pathology, chemistry (pharmacology), on which he undertakes to build the superstructure of professional training. The applications of medical science have, however, become so varied and so complicated that the medical student is not only called on to carry an impossible load, but also his fundamental sciences are in different compartments from the applications which ought to illustrate and make clear the sciences themselves. The student learns anatomy by a tedious process of dissection on which he spends a large amount of time, but he has a very good opportunity to forget most of it before he sees, in practice, the application of his anatomical studies. These fundamental sciences can be taught, not as something separate from medical practice but as part of it. . . . It must be clear to every medical teacher that the weakest parts of the present medical teaching are the courses in anatomy and pathology. These are elaborately taught to every medical student without affording him any opportunity to see the application of anatomical and pathological knowledge to the practice of medicine and surgery. The process is like teaching forestry by giving the student elaborate courses in botany before taking him into the forest. . . . The practical remedy for this situation is to reduce the amount of theoretical instruction in the first two years, and to change the character of the teaching so as to make clear the fundamental facts, while at the same time starting the clinical instruction at the very beginning of the course. The student should learn his anatomy and his pathology through his clinical training, not reverse the process. No other reform in medical teaching approaches in importance this one."

In reorganizing the medical curriculum we must recognize the fact that the medical school should provide for the training of two classes of medical practitioners — the general practitioner and the specialist, and must provide both an undergraduate and a graduate course of instruction. The clinical instruction in the undergraduate course should be broadened and simplified and given under the three departments of medicine, surgery and obstetrics, and by teachers who are broadly trained and who in their clinical work cover the entire patient. Research is an essential integral part of every well organized clinical department. Whatever funds there are in the control of the medical school which can be used for research should be intelligently assigned to the various laboratory and clinical departments with the certainty that these funds will be of much more service to the school and the science of medicine than they would be if they were used to develop a special research department or laboratory.

In the interests of medical education and for the protection of the public, all medical schools and state medical boards should make the hospital year a requirement both for graduation and for the license to practice.

Another important matter is the providing of thorough courses for the training of specialties. The reports of the committees presented at the annual conference in 1921 brought this whole matter clearly before the medical profession and the medical schools. The medical schools are again urged to make provision for the training of specialists and also to provide postgraduate courses for medical practitioners.

Those who have been studying this problem in a broad way recognize that the ultimate aim of medical education must be to secure the benefits of modern scientific medicine to all the people. The time has come when the medical profession must take the initiative and organize the entire profession so as to secure this result. This is a national problem, a state problem and a community problem. In its practical application, however, it is a community problem. In every community which can support them we should have the necessary number of well trained medical men; we should have properly built, properly equipped and properly conducted hospitals which can furnish the hospital and diagnostic facilities demanded by modern scientific medicine sufficient for the needs of that community. Such medical facilities are as necessary in our modern civilization as good roads and good schools. By an educational propaganda, we must make this clear to the profession and the people. The American Medical Association must point out the way and urge every county medical society to make this work their first and most important function.

PROBLEMS OF MEDICAL LICENSURE

As the admission requirements of medical schools have been advanced during the last seventeen years the requirements of preliminary education by state licensing boards have also been advanced and progress has been made in medical licensure as indicated by Table 6, reproduced herewith. This shows, therefore, that standards of medical licensure have been generally improved.

There are a number of problems, however, shown in the recent State Board Number of The Journal[1] to which the attention of the House of Delegates should be called. One of these is the continued existence of separate eclectic boards in Arkansas and Connecticut, through which those states are being flooded by graduates of low grade medical schools. Another is the licensing of osteopaths as physicians and surgeons by several boards—notably, California, Colorado and Texas. It is noteworthy that two of these states—Colorado

1. State Board Statistics for 1921, J. A. M. A. 78: 1297-1319 (April 29) 1922.

and Texas—refuse to admit graduates of Class C medical schools to their examinations. Nevertheless, they admit graduates of osteopathic colleges, which are nothing more than very low type medical schools.

A third problem is the confusion which exists in the administration of medical practice laws caused by the various forms of "drugless" healing. As a result of this confusion there are misconceptions as to just what the practice of medicine is. By any logical manner of thinking, all methods by which human ailments are treated are covered by the term "the practice of medicine." It is evident that any one who is to treat human disorders by any method should have a knowledge of the fundamental medical sciences by which he can make a reasonably accurate diagnosis. It follows, also, that the educational qualifications required of one practitioner—the physician—should be required equally of all who profess to treat the sick. Legislators have at various times overlooked these facts, have listened to the claim of would-be healers that because they "did not use drugs," they were

TABLE 6.—ADVANCES IN STATE LICENSE REQUIREMENTS IN SEVENTEEN YEARS

Requirement or Provision	States Having Provision for			States Still Having No Provision for
	1904	1922	Increase	
Preliminary Education—				
Any requirement	20	47	27	3[1]
A standard four-year high school education or higher	10	47	37	3[1]
One year or more of college work	0	42	42	8[2]
Two years of college work as a minimum	0	38	38	12[2]
That all applicants be graduates of a medical college	36	49	13	1[3]
That all applicants undergo an examination for license	45	49	4	1[4]
Requirement of practical tests in the license examinations	1	13	12	37
Hospital intern year required	0	10[5]	10	40
Full authority by board to refuse recognition to low-grade colleges	14	47	33	3[6]
Boards refusing to recognize low-grade colleges	5	47[7]	42	3[8]
Reciprocal relations with other states	27	44	17	6[9]
Single boards of medical examiners	36	45	9	5[10]

1. District of Columbia, Massachusetts and Wyoming.
2. See Table L.
3. Colorado.
4. New Mexico.
5. Pennsylvania, 1914; New Jersey, 1916; Alaska, 1917; Rhode Island, 1917; North Dakota, 1918; Washington, 1919; Illinois and Michigan, 1922; Iowa, 1923, and Texas, 1924.
6. District of Columbia, Massachusetts and Wyoming.
7. In two states, Arkansas and Connecticut, each of which has three separate boards, only the regular (nonsectarian) boards have refused recognition to low standard medical colleges and have enforced higher standards of preliminary education.
8. The states named in Footnote 6.
9. Alaska, Arizona, Connecticut (regular board), Florida, Massachusetts, Rhode Island. To this list should be added the outlying territories of Canal Zone, Philippine Islands and Porto Rico, which have no provision for reciprocity.
10. Multiple boards still remain in Arkansas, Connecticut, District of Columbia, Louisiana and Maryland.

"not practicing medicine" and have granted them authority to practice on lower qualifications than are required of physicians. Such action is illogical. That the practice of medicine is not limited to the giving or withholding of drugs, but includes any and every useful means of diagnosing or treating human disorders, has been repeatedly recognized by the national supreme court. In a Texas case[2] it was declared that osteopaths, like physicians, should be required to have a scientific training, and a clear distinction was made between osteopaths, on the one hand, and nurses and masseurs on the other. Osteopaths, it was implied, gave treatment without a physician's diagnosis or instructions, while nurses and masseurs performed their functions after a physician had ordered that treatment or care. The decision applies with equal force to any other class of healers. Recently a decision has been rendered by the United States supreme court which clears the atmosphere in Ohio. Chiropractors, it has been ruled, must secure licenses from the medical board, or they are subject to prosecution for practicing illegally. The various healers in bombarding the legislatures—too often successfully—to secure special privileges in regard to practice, have indeed caused confusion in medical licensure but the confusion is beginning to be cleared away. The issue should be tested on the basis of reasonable educational qualifications, and then, if necessary, each case should be carried through to the United States supreme court where the merits of the situation will be cleared up. The forces for law and order in each state should not rest until one standard of educational qualifications has been established, which will be equally fair to the physician and to every one else who is authorized to practice the healing art. Even granting that there is some good in the methods emphasized by any group of healers, this good will in no way be diminished if those applying such methods are required first to have had a training in the fundamental medical sciences.

2. Collins vs. State of Texas (U. S.) 32 S. c. Rep. 286.

III. The Council's Work with Hospitals

The work of the American Medical Association with hospitals began in 1904 when a list of all such institutions was prepared for publication in the American Medical Directory. The Association collected also a large amount of detailed information in regard to all hospitals. In 1904, also, the ideal standard of medical education proposed by the Council included, among other things, the requirement that a fifth year be spent by the student as an intern in an approved hospital. The Council began at once to collect data in regard to hospitals which were making use of interns. At that time, however, there were not enough hospitals using interns to provide places for all medical graduates and so far as they could get them students were obtaining internships voluntarily.

First Survey of Hospitals

In 1912 a circular letter was sent to the 2,424 hospitals having twenty-five or more beds asking in regard to the use of interns. Replies were received from 2,185, or 90 per cent., and only 852 were regularly using interns which provided places for 3,006 graduates. Since the internships in many hospitals extended over eighteen months or two years, the internships available annually were about 2,000 although approximately 4,000 students were graduating each year.

In 1913 a questionnaire was sent to all hospitals and on the basis of the reports received a provisional list was prepared of hospitals approved for intern training. This list was carefully checked by a committee of three prominent physicians in each state, unworthy hospitals were eliminated, and other hospitals which deserved to be included were added. In 1914 this revised list was published and in 1915 a list of the Council's state advisory committees was published. In 1915 the members of all the state advisory committees on hospitals were selected by and made organic parts of the state associations.

Second and Third Surveys

In 1915 a second questionnaire was sent to hospitals having fifty or more beds. Through the state committees, numerous inspections and investigations were made, so that the list of hospitals approved for intern training which was published in 1916 was more reliable than the previous lists. It was the only list available for the guidance of students seeking internships.

The American Conference on Hospital Service

As the result of a resolution adopted at the annual conference on medical education in 1919 the American Hospital Conference was organized in Chicago in April of that year. At its first regular meeting held in Cincinnati in September, 1919, the name was changed to the American Conference on Hospital Service. This is an organization made up of representatives of fourteen organizations especially interested in the improvement of hospital service. The organization now has its part in the annual congress on medical education, licensure, public health and hospitals which has grown out of the annual conference of the Council on Medical Education. The annual meeting of this organization in Chicago

last March was of unusual interest and service through the discussion of numerous hospital problems.

Early in 1918-1919 the third survey of hospitals was completed. As in previous surveys, the state advisory committees aided materially in the work. Detailed reports were received from 1,126 hospitals stating that they were using or seeking interns—274 more than were included in the list of 1912. The total bed capacity of these hospitals was 270,500, places were available for approximately 6,000 interns. It was evident that with only about 4,000 physicians graduating each year, all these hospitals could not be supplied with interns. This made it important to select more carefully the hospitals admitted to the approved list, so that the internship might be made a fifth year of actual clinical training for the student.

ENLARGEMENT OF THE COUNCIL'S DUTIES

At the meeting of the American Medical Association in 1920 the House of Delegates placed all the Association's work with hospitals in charge of the Council on Medical Education and Hospitals.

For the tremendous work that needs to be done for the improvement of hospital service, no organization occupies a position more advantageous than the American Medical Association with its various state organizations. The work of the Association with hospitals must take all institutions into consideration and the Council is planning to establish a list, not only of those approved for intern training but also of those approved as nonintern hospitals. The standard applied to intern hospitals is being modified so as to apply to both groups. It is becoming increasingly important that every community be provided with adequate medical and hospital service. So much depends on the future development of hospitals, therefore, that the members of each state committee should be selected with special care. It is urged, that a permanent committee be established in every state consisting preferably of three members serving for a term of three years, the first committee being so appointed that the term of one member will expire each year.

HOSPITAL WORK OF THE YEAR

The latest list of hospitals approved for intern training was published in the Hospital Number of THE JOURNAL, April 16, 1921, and also in the medical directory. The Council has kept in close touch with the hospitals either directly or through the state committees and has approved several other hospitals that have applied for admission to the list and removed a few others that have fallen below the standard. Since the list was last published 43 hospitals have applied for classification, and 17 have been approved. There are now 627 hospitals on the approved list, distributed as follows:

	Number Approved	Internships	Beds
General hospitals	495	2,994	108,741
State hospitals and hospitals for the insane	28	99	50,134
Other special hospitals	104	424	16,117
	627	3,517	174,992

Through the cooperation of the state committees every decision regarding a hospital's facilities for intern training is now based on written evidence regarding the hospital's equipment, staff, character and quantity of work, and other items that go to make an internship.

The Council maintains also a general list of all hospitals for insertion in the directory and for the hospital information service. This phase of the work is followed closely because new hospitals are constantly being added and others are going out of existence, changing hands, increasing their bed capacity, etc. The time has passed when an occasional "roundup" of hospitals will suffice to provide the service that the Council is now called on to supply.

We wish to mention especially the splendid cooperation received from the state hospital committees which respond fully and promptly whenever requests for information or inspection are made. In a few states, notably California, Washington, Missouri and Ohio, and to a greater or less extent in other states, the committees have been particularly active and even aggressive, visiting hospitals and assisting in problems of staff organization or community relationships when requested by the hospital. In fact, the state committee organization throughout the country is now capable of being called into action to perform any important work and with a thoroughness hardly to be expected of voluntary committees.

SURVEY OF DISPENSARIES, CLINICS AND GROUP PRACTICES

There has developed in recent years a growing demand for information in regard to the number, distribution and work done in dispensaries, clinics and group practices, and during the present year the Council is making a special effort to obtain such data.

A comprehensive survey is now being made of all institutions that give medical service to ambulatory patients, including outpatient departments of hospitals; general dispensaries not connected with hospitals; group practices; tuberculosis; venereal, mental hygiene and other special clinics; health centers; baby welfare clinics, etc. It was found necessary to list all these various organizations in order to even approach completeness in any one of them.

The information thus far obtained indicates that there are in the United States, at the present time, approximately 1,150 outpatient departments, 800 independent dispensaries and possibly 200 group practices. Adding the clinics and dispensaries for tuberculosis, for venereal diseases, mental hygiene clinics and baby welfare clinics, there are no less than about 4,500 institutions giving medical service to ambulatory patients. Returns are constantly coming in so that the final report will doubtless show an increase over the figures given.

A few main facts are being obtained regarding each institution including, in addition to the name and the address, the kind or classification, the auspices under which it is operated, how supported, the total number of patients and the total number of visits made in the last fiscal year, the class of people served, the educational functions, numbers of full-time and part-time physicians engaged, number of social workers and the kind of medical service rendered.

Several facts have been brought to light regarding outpatient departments and dispensaries. There is (1) a steady increase in the number of patients seeking treatment in general dispensaries; (2) an increasing tendency to charge nominal fees thereby placing part of the cost of the institution on the patients; (3) an increased use of social service workers to investigate the social and financial status and to prevent pauperizing; (4) the great amount of educational work; (5) the inadequacy of clinical and office record systems—hence the extreme difficulty of securing accurate data; (6) an unprecedented increase in special clinics and dispensaries such as those for tuberculosis, venereal diseases, mental hygiene and baby hygiene.

GROUP PRACTICE

Before beginning this survey so much had been heard about group practices that one was led to believe they were being rapidly developed which made them a matter of great concern to the profession. The impression of great growth and wide use of the group practice system, however, has not been sustained by the survey. In fact only 139 groups exist in the country at the present time even with the most liberal interpretation of the term, and less than 1,000 physicians are combined in them. For the sake of an understanding as to what group practice is, we may attempt to define it as the practice of medicine by an organization of physicians, in which (*a*) each member contributes to the group his professional service and receives from the group certain benefits in return; (*b*) the members unite in the diagnosis of cases that indicate need for their combined service. Under this definition it is believed we would not find in the country today one hundred group practices, including altogether possibly less than 700 physicians. It is notable also that a large number of "group practices" are rather short-lived. At present, therefore, the group practice movement does not seem to warrant any very great concern on the part of the profession.

NUMBER OF HOSPITALS INCREASING

The number of hospitals has largely increased during the last fifteen years. In 1913, there were 2,424 general hospitals having twenty-five or more beds, and a total capacity of approximately 200,000 beds. In 1920, the number had increased to 4,012 with a total capacity of 307,356 beds. The latter figures did not include the 2,000 government hospitals, sanatoriums for the insane, state sanatoriums for the tuberculous, penitentiary hospitals, or homes for the aged, blind, incurables, etc. Also a number of disreputable hospitals were excluded.

The increasing number of hospitals is a direct response to the growing demand for hospital treatment by the public which is recognizing the improved methods of diagnosis and treatment in hospitals, as well as the freedom from noise, disturbances, and worry over household affairs so commonly experienced in home treatment. Through the instruction which they obtain in the examination and care of patients in hospitals; the familiarity which they obtain with the routine hospital methods of diagnosis and treatment, and the experience they obtain during the year devoted to the hospital internship, recent graduates realize the importance of having access to a hospital for the practice of modern medicine.

THE INCREASING DEMAND FOR INTERNS

Three factors in recent years have greatly increased the demand for interns: (*a*) the improved qualifications of the present-day graduates in medicine; (*b*) the rapidly increasing number of hospitals, and (*c*) the campaign to improve hospital service which has called for better records, including histories of patients, records of physical examinations, records of laboratory analyses, records showing the patients' progress and end results—work which rests largely on the intern. Ten years ago, many hospitals did not use interns and would not have them in the hospital and there were not enough internships available for those graduating each year. The improved qualifications of medical graduates, however, has led more hospitals to use intern service.

During the World War, instead of securing hospital internships, many graduates secured commissions in the government medical services. This created a demand for interns which since that time has become more and more pronounced. In 1918, 1,126 hospitals were seeking interns, these hospitals providing more internships than could be filled even in 1904 when this country had over half of the world's supply of medical schools.

The time has arrived, therefore, when the training of interns may with advantage be restricted to the hospitals having facilities and methods by which a fifth year of actual medical instruction can be furnished. Other hospitals will need to employ house physicians or to otherwise arrange for the services usually done by interns. The time has arrived also when state licensing boards should establish a general requirement of a hospital internship as an essential qualification for the license to practice. Nor will it be a hardship on the student if an intern training should hereafter be generally required by medical colleges as an essential for the M.D. degree. Such action by the medical schools would insure a more careful supervision of the intern's work as well as of the education furnished by the hospital.

SUMMARY

A summary of the foregoing report is as follows:

I. PROGRESS IN MEDICAL EDUCATION

1. In 1904 the United States had 162 medical colleges—more than were to be found in all the rest of the world. There was an overabundance of medical students and more graduates each year than the needs of the country warranted.

2. The campaign for improvement during the seventeen years, although it has reduced the numbers, respectively, of colleges, students and graduates, at the same time has remarkably improved the quality of each and the supply comes nearer to meeting the normal requirements of the country.

3. Where formerly educational standards of medical schools in the United States, with a few exceptions, were lower than in countries abroad, now the standards of medical education are at least equal to those found in any other country.

4. The lowest enrolment of medical students, resulting from the decrease in the number of colleges and the increased entrance requirements, was reached in 1919 when there was a total of 13,052 medical students. A still lower ebb in the enrolment of individual classes began with the freshman class of 1919, resulting from the many enlistments for military service. As a result the class graduating in June will show the lowest number. Since 1919 the numbers of students matriculating each year have been remarkably on the increase.

II. NEW PROBLEMS IN MEDICAL EDUCATION

The higher entrance requirements, improved medical schools and the modern methods of teaching have created new problems in medical education. For example:

1. The necessity of limiting enrolments has made it difficult for well qualified students to secure enrolment in medical schools. It appears, however, that this difficulty is only temporary.

2. There is still ample room in Class A medical colleges for more than the total number of students enrolled in all colleges during the last session.

3. The cost of conducting medical schools under the present standards of medical education has been greatly increased. Instead of there being profits from students' fees, now the expense is from two to four times the amount obtained from students' fees. The average income reported by sixty-nine medical schools is $130,672, of which $35,135 (26.9 per cent.) was obtained from students' fees.

4. The average expenditure of each medical school was $123,947, including $46,162 (37 per cent.) for all-time teachers, and $21,131 (17 per cent.) for part-time teachers, which makes 54 per cent. for instruction. The average annual fee paid by the student was $185 and the average expense for his instruction was $655. In 1916 the average fee was $150 and the average expenditure was $419.

5. Certain dangers from specialization have developed in that (*a*) medical schools are turning out specialists rather than thoroughly trained general practitioners, and (*b*) graduates are inclined to pose as specialists without first securing the essential experience or special training. The situation requires a reorganization of the undergraduate curriculum and the requirement, eventually, of evidence of special training before the physician is entitled to pose as a specialist.

6. Since the World War the lack of physicians in the smaller towns and rural communities has become more acute. It is evident that the solution of the problem is the establishing of hospitals in every center having sufficient population in the surrounding community to support a hospital.

7. A plan for the reorganization of the undergraduate curriculum calls for (*a*) the leaving of instruction in the specialties for the graduate school, (*b*) a less rigid division of the hours devoted to teaching in the various departments of the medical school, and (*c*) a closer correlation of clinical work with that of the so-called laboratory courses of instruction.

8. Among the acute problems of medical licensure are: (*a*) The licensing of graduates of low grade medical colleges by separate sectarian boards in Arkansas and Connecticut. (*b*) The licensing of osteopaths as physicians in a few states, notably California, Colorado and Texas. (*c*) The granting of separate boards for certain groups of "drugless" healers under a misconception of what is meant by the term "the practice of medicine," and (*d*) the importance of one standard of educational qualifications to be insisted upon alike for every one who is to be authorized to treat the sick.

III. WORK WITH HOSPITALS

1. The work of the American Medical Association with hospitals began in 1904 with the publication of the American Medical Directory and with the establishing of the "ideal standard" of medical education, including a hospital internship.

2. Three complete surveys of hospitals began, respectively, in 1912, 1915 and 1918.

3. In 1919, following the conference on medical education, the American Conference on Hospital Service was established.

4. In 1920 the work of the Council was enlarged to include all the work of the Association in connection with hospitals.

5. The first Hospital Number of THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION was published April 16, 1921.

6. The number of general hospitals has increased from 2,440 in 1913 to 4,012 in 1920 and the total number of beds from 200,000 to 307,356. These figures do not include those in government hospitals, sanatoriums for the tuberculous and the insane, penitentiary hospitals, homes for the aged, etc.

7. There is an increasing demand for interns, due mainly to the rapidly increasing number of hospitals, but also to the fact that a larger proportion of hospitals than formerly is making use of intern service, this doubtless, in turn, being due to the better qualifications of medical graduates.

8. The Council is now conducting an extensive survey of outpatient departments of hospitals, general dispensaries, group practices and clinics for tuberculosis, venereal diseases, mental hygiene clinics, health centers, baby welfare clinics, etc., or, in brief, of all institutions that give medical service to ambulatory patients.

9. The survey shows already that there are 1,150 outpatient departments, 800 independent dispensaries, and approximately 200 clinics conducting what is properly referred to as "group practice." Including all clinics having to do with ambulatory patients, there are approximately 4,500. Complete returns will doubtless increase the figures given.

CONCLUSION

From the foregoing report, it will be seen that great progress has been made since the beginning of the Council's work in the elevation of standards of medical education and the improvement in quality of physicians entering practice. It is apparent, however, that instead of being diminished, the Council has a still larger function to perform in dealing with the newer problems and in doing what it can to bring the benefits of scientific medicine within the reach of the people of every community.

Respectfully submitted,

COUNCIL ON MEDICAL EDUCATION AND HOSPITALS.

ARTHUR D. BEVAN, Chairman, RAY LYMAN WILBUR,
WILLIAM PEPPER, SAMUEL W. WELCH,
MERRITTE W. IRELAND, N. P. COLWELL, Secretary.

Report of the Council on Scientific Assembly

Dr. J. S. Horsley, Virginia, Chairman, presented the report of the Council on Scientific Assembly, which was referred to the Reference Committee on Sections and Section Work.

To the Members of the House of Delegates of the American Medical Association:

On January 14 the Council held a conference with the secretaries of the sections of the Scientific Assembly at the headquarters of the Association. All the section secretaries were present with the following exceptions: The Section on Ophthalmology, which section was, however, represented by its chairman; the Section on Preventive Medicine and Public Health; the Section on Urology, and the Section on Gastro-Enterology and Proctology. All the members of the Council were in attendance with the exception of the President of the Association, Dr. Hubert Work, who was prevented from attending the meeting because of a serious injury to one of his principal associates.

The assignments for the meeting hours of the different sections for the 1922 annual session were announced as follows:

Sections to convene at nine o'clock in the mornings of Wednesday, Thursday and Friday, May 24, 25 and 26: Surgery, General and Abdominal; Ophthalmology; Diseases of Children; Pharmacology and Therapeutics; Nervous and Mental Diseases; Dermatology and Syphilology, and Preventive Medicine and Public Health; also one meeting of the Section on Miscellaneous Topics to present a program on Anesthesia to meet Wednesday morning, May 24.

Sections to convene at two o'clock in the afternoons of Wednesday, Thursday and Friday, May 24, 25 and 26: Practice of Medicine; Obstetrics, Gynecology and Abdominal Surgery; Laryngology, Otology and Rhinology; Stomatology; Pathology and Physiology; Urology; Orthopedic Surgery, and Gastro-Enterology and Proctology.

The Council assigned one of the meetings of the Section on Miscellaneous Topics for the 1922 Annual Session for the presentation of a program on anesthesia and appointed as officers for that meeting: Chairman, Dr. Isabella C. Herb, Chicago; Vice-Chairman, Dr. David E. Hoag, Pueblo, Colorado, and Secretary, Dr. F. H. McMechan, Avon Lake, Ohio.

NEW SECTIONS

The Council on Scientific Assembly has given careful consideration to the division of the Scientific Assembly into sections. The Council is of the opinion that no radical changes should be made in the sections as they are now constituted. It holds that the principle which should be followed in any changes in the sections should be one which has for its object the coordinating of the work of the present sections and combining these rather than the establishment of additional sections. There are four outstanding reasons which justify the Council in urging that additional sections shall not be established: First, it is expedient that in the sections now established an opportunity should be afforded to present the new work that has been done in the field particularly assigned to the sections, as well as in fields closely allied thereto. For example, papers on anesthesia should be presented in the various sections rather than in a special section. The Section on Surgery undoubtedly would find much interest in the various anesthetics and in the technic of their administration. The pharmacologic and therapeutic questions relating to anesthesia are proper subjects for presentation in the Section on Pharmacology and Therapeutics.

Second, the Scientific Assembly should be reduced to just as few sections as possible rather than increased by the establishment of new sections, especially when it is impossible to define a field for the new section without interference with fields assigned to already existing sections.

Third, the multiplicity of sections would be practically unlimited if it is understood that a section is to be established for each field in medicine as these fields are defined by physicians who practice the several specialties. It is conceivable that requests will be received for sections on physical therapeutics, on hydrotherapy, on anesthesia, on roentgen ray work, on radium, and the list could be greatly extended. Every one of these specialties may logically claim a section in the Scientific Assembly unless the policy recommended by the Council on Scientific Assembly be approved by the House of Delegates, which is that the present established sections shall be encouraged—so far as it is practical so to do—to provide in their programs for the presentation of papers setting forth the work of the more limited specialties, and that applications for new sections shall be considered in accordance with that principle.

Fourth, the Section on Miscellaneous Topics provides opportunity, in one, two or three meetings at any annual session, for the presentation of programs on subjects which do not fall within the scope of the other established sections. This section gives every advantage of audience and publication that the other sections afford.

Since the Boston meeting of the House of Delegates, no formal petitions for the establishment of new sections have come before the Council.

The Council again calls attention to the marked improvement in the Scientific Assembly which has resulted from the holding of but one meeting a day by each of the sections. This change was initiated by the Council on Scientific Assembly and through the cooperation of the officers of the sections was put in practice at the Annual Session in 1919. It makes it possible for the Fellow who is particularly interested in the work of a particular section to attend meetings of sections other than the one devoted to the specialty in which he has a personal interest, to visit the exhibits and in other ways to receive added benefits from the Annual Sessions of the Scientific Assembly. The plan has received the universal approval of the officers of the sections as well as of the Fellows in general.

CHANGE OF TITLE OF A SECTION

At the Boston Annual Session of the House of Delegates, the Section on Preventive Medicine and Public Health transmitted to the House of Delegates a formal request that the name of that section be changed to the Section on Preventive and Industrial Medicine and Public Health. The House of Delegates in turn referred this action to the Council. After giving the matter careful consideration, the Council recommends to the House of Delegates that the By-Laws of the Association be modified so as to provide that the title of the section in question shall be the Section on Preventive and Industrial Medicine and Public Health.

THE THERAPEUTIC VALUE OF ALCOHOL

The preambles and resolutions submitted to the House of Delegates from the Council on Health and Public Instruction and which pertained to the question of the therapeutic value of alcohol were referred to the Council on Scientific Assembly. The preambles and resolutions so referred were made the subject of a general discussion by the members of the Council, after which the Council on motion duly seconded and carried approved the following declaration; namely, that the subjects discussed in the preamble and resolutions involved scientific problems which have for a long period of time been the subjects of study by competent scientific investigators; that notwithstanding these investigations, there is no definite, generally accepted conclusion on these questions. The Council deems it unwise to attempt to determine moot, scientific questions by resolution or by vote and recommends that, under the conditions cited, the House of Delegates shall take no action at this time on the question of the therapeutic value of alcohol. In making this recommendation, the Council calls attention to the fact that it has not taken under consideration nor do its recommendations apply to any of the social, economic or moral issues which are involved in or allied to the scientific problem presented—the determination of the therapeutic value of alcohol.

THE CONFERENCE OF SECTION SECRETARIES

One of the most effective measures in coordinating the work of the several sections which the Council has been putting into effect is the holding of the annual conference with the secretaries of the sections. The Council recommends that the House of Delegates approve the holding of this annual conference and that the House request the Board of Trustees, in formulating the annual budget of the Association, to make provision for holding this conference annually.

Respectfully submitted.

J. SHELTON HORSLEY, Chairman.
E. S. JUDD. F. P. GENGENBACH.
ROGER S. MORRIS. JOHN E. LANE.

Ex-officio.

GEORGE E. DE SCHWEINITZ, President-Elect.
GEORGE H. SIMMONS, Editor and General Manager.
ALEXANDER R. CRAIG, Secretary.

ADDENDUM

(Refer page 1613, preceding Reports of Officers)

The President, Dr. Hubert Work, Pueblo, Colo., was called to the Chair, after which the Speaker delivered his address:

Address of the Speaker, Dr. F. C. Warnshuis

Members of the House of Delegates:

There is no duty or privilege more worthy of our consideration, at this the opening of our first session, than fittingly to express the honor and tribute we owe to those who have left the world better than they found it. On Oct. 21, 1921, just as the sunset waned, his life strings parted and Dwight H. Murray passed from this world to that other existence, we trust of light and love and joy. His achievements and service have been recorded in the archives of our Association. We pause at this time, in solemn reverence, to give expression to sentiments that cannot be adequately imparted in the cold type of the printed page.

It has been the privilege of many of you, as well as mine, to have known Dr. Murray for a decade or more and to have been associated with him in the activities of this House. During our periods of contact, in our discussions and deliberations, there was generated a feeling of respect and esteem for him who has departed. Unassuming in attitude and manner, void of all avariciousness, farseeing in calm, deliberate judgment, thoughtful and ever considerate of the opinions and rights of his fellow-man, eager to perceive wherein and whereby he might contribute to the greatest good of the majority, shunning the snares of the schemer and with a continued manifestation of a studied desire to subscribe his bit to the welfare of our Association, Dwight H. Murray rose to and attained a place among us that commanded the recognition that was manifested by our electing him on two occasions as Speaker of this House.

Thus, did we commune with a fellow-man whose memory we revere and cherish, whose death we mourn and whose demise has deprived us of his guiding wisdom and leadership.

There are five outstanding conditions that are related to our Association's and individual members' welfare that present themselves for definite action at this session. They are:

EDUCATION OF PUBLIC REGARDING SCIENTIFIC MEDICINE

Medical journals, during the past year, have devoted much space to comment on the future of our profession, its relation to the public and state, its organizational activities, the lack of united effort and to an implied disagreement as to representation, policies and executive leadership. There has been a preponderance of criticism characterized by a lack of constructive recommendations. It may be presumed that these discussions and expressions reflect, to a degree, that a readjustment is at hand. Their authors apparently are unable to perceive definitely the direction or scope of our future relationship in the civic, industrial, social and communal intermingling. There is evident a needless anxiety over our present position and an unwarranted desire to bring about a spontaneous change, and within a space of a few months establish a new basis and policy for our interrelation and contact with the public and its institutions. Little cognizance is seemingly taken of the fact that stable realinements rarely follow revolutions; that reforms for the betterment of conditions are not, as a rule, the outcome of inconsiderate and injudicious precipitate action. He who in calm reflection ponders on the changes that are being gradually evolved in the affairs of life realizes that we as a profession must mold and build anew certain channels of intercommunication for the future and greater application of scientific medicine to the requirements of the people. That which we have, that which we practice, is not all obsolete and inadequate. No need presses for revolutionary action in regard to the present policies of this organization. Reconstruction and reorganization are, however, necessary in certain instances. Some of the advice, some of the proposed innovations and some of the suggested policies merit deliberate consideration; others are not worthy

of even passing recognition. I am certain that your judgment and wisdom will manifest itself and find expression in the enactments of this House in the solution of these problems.

There is a palpable ignorance on the part of a large number of our members in regard to our organizational activities. They do not know what has, is, or will be achieved by delegated councils, committees and executive officers. This accounts for much of the criticism that has been made in ignorance and possibly inadvisedly. There is a manifest ignorance, likewise, on the part of our members in regard to what society and government as well as business have accomplished, is planning to accomplish and the policies they are pursuing. Again, there is a failure to recognize that the public's misunderstanding of our profession, the people's misconstruction of our purposes and their misinterpretation of our principles are due largely to their lack of information regarding scientific medicine, its achievements and its potentialities. It is our neglect and failure to keep them abreast of our progress and our failure to impart to them that which we have achieved that has created this situation. The public is twenty-five years behind the times in its information in regard to the scientific physician and his work today. For this we are largely and solely culpable, for we have been so concerned in the solving of our scientific problems, our research, our observations and the application of our principles that we failed to pause from time to time to impart to the public the progress made, and the results that were being attained from the application of our proved principles and methods. We were content and too willing to remain behind a curtain of reserve which today we recognize is an error, and to correct it is our pressing concern.

I believe that no more epoch-making action can be taken by this House during this session than to adopt a plan of activity that will undertake the education of the public and acquaint it with the established tenets of scientific medicine and the methods utilized by physicians in the prevention, eradication and treatment of human ills. This educational work must be based on the proposition that, in a democracy, health is a public concern. Sound public policy and private conduct will result only from sound public and private opinion and this will come only by getting to the men and women of this nation an adequate knowledge of the ascertained facts in regard to health and disease. We are only concerned with education and must rely upon the convincing power of the truth. We should send out teachers, not advocates.

We have a Council on Health and Public Instruction. I am not unmindful of that which this Council has accomplished. However, I cannot but feel that we have permitted its activities to remain subservient to other organizational interests. We have not sufficiently concerned ourselves with the true purpose and object of that Council and have not imparted instructions or provided funds whereby it could engage in a persistent, successful, educational campaign. With due respect to the work of our other Councils, we have made this Council, the one which possesses the power to maintain and enhance our professional standing in the sight of men, the object of our least concern and interest. Into its deliberations there is not brought, except at annual formal conference, the trend of the advance or the difficulties of the first line of contact, those who attend at the bedside of the sick. In theory only it is fair to assume that its personnel receives the specter of the problems of the active practitioner, but has no direct contact with him or the demand that is made on him by the public. Time will not permit going into further detail. I am attaching hereto, for the Reference Committee's information, additional facts pertaining to the needs of this Council.

Upon deliberate and considerate thought I recommend that the following action be taken:

1. Enlarge this Council on Health and Public Instruction to ten members, and not less than five of its members to be active practitioners.

2. That the Board of Trustees be directed to make an appropriation for this coming year of not less than $75,000 to defray the expense of an active, constructive plan of public health instruction. That the Trustees, and again I am not unmindful of or discrediting the work of other Councils, if financial conditions make it imperative, be requested to cut other appropriations, retrench on the expense of or even discontinue the publishing of subsidiary medical journals and so clear the presses of the Association for service to this Council. Greater need exists for public health education and the acquainting of the public with the facts regarding scientific medicine than for certain medical journals that divert our activities. We must become more than a publishing house.

3. That the House of Delegates provide for an advisory committee to this Council, consisting of the President, the Secretary, the General Manager, the Speaker of this House and five delegates, no two of whom shall come from the same state, to meet not less than every three months for the formulation of plans of activity and the institution of field work that they and this Council should be directed to undertake with the greatest, safe expediency.

Many of our problems, problems that are creating so much of the unrest in and out of the profession, but all relating to scientific medicine, will be solved when we impart to the people the knowledge which they do not now possess. Hence the demand, the urgency, the need for the discontinuance of further temporizing methods, studies, surveys and theorizations. I am firm in the belief that this is our need and that the responsibility for the undertaking of that duty rests on you if you are concerned, as you must be, with acquitting yourselves of the trust imposed in you by those whom you represent.

HEALTH INSURANCE—GROUP MEDICINE

Compulsory health insurance never will and never can become an American institution. As our campaign of public education broadens, this fantastic, un-American machination and the fancies of its proponents will fail to arrest legislative attention and consideration or draw unto it public demand and support. There are other forms of medical practice, instigated, conducted and extended by individuals, groups and health and lay agencies that encroach on and mitigate against the interests of the individual doctor. Some of them merit endorsement and support. Others, however, require our emphatic and perhaps drastic denouncement. They are dependent, for success and extension, on the members of our profession. Regretfully we recognize that many physicians, thoughtful only of self, place their services at the command of such agencies. Such practices must not be condoned.

As an organization we have a direct obligation to our members. Likewise our members have a direct obligation to the Association and to their associates. It is unreasonable to expect that your officers and committees can attain results without your cooperation and support. You cannot sit in the galleries and in inactive attitude expect the few, by their work in the arena, to vouchsafe to you freedom from trespass on your rights. Precedents and rules of guidance for each individual must be established and must be observed by the whole without exception or favor.

A code of ethics was formulated by our forefathers for their and our guidance. In certain respects the changes that the years have brought have rendered obsolete or inapplicable some of its rules and precepts. Group medicine and group clinics as well as state medicine have come and will grow. It is for us to revamp and revise and reconstruct that code of ethics so that it will today apply to the individual physician and specialist, and, further, that it will exert a supervising direction and control over these groups of associated practitioners and medical health officials.

To that end it is recommended that there be created a revising committee that will perfect such a revision of our established code and submit their report at our next annual session.

THE TRAINED NURSE AND THE NURSING PROBLEMS

During the past few years, and particularly the last two years, there has been much discussion and considerable criticism by both professional and lay individuals of the trained nurse, nursing service, training school, curriculums for nurses and the nurse in health and industrial work. A study of these discussions, as well as personal experiences, causes one to feel that there is immediate need for the consideration of the entire subject of training schools, nursing education, hospital

and graduate nursing service and the nurse's relationship to the patient, the doctor and the public. There is an interrelationship that we cannot ignore. Our interests, the interest of the public and the future interest of the nurse, demand that we concern ourselves with this problem and expedite its satisfactory solution.

I am not unaware of the surveys and findings made and reached. I am also familiar with the attitude of certain nursing organizations and groups, and also with the ideals sought by lay leaders and organizations. Our profession has yet given no definite expression of its opinion and judgment. The time has come for us to do so and the public is desirous of receiving our findings and recommendations. I therefore recommend that you create a special committee, to be appointed by the President, with the advice of our Trustees, to make a thorough survey and study of the problems and submit its report and recommendation at our next annual meeting.

In connection therewith hearings should be accorded to all groups concerned in the providing of nursing assistance in the prevention and treatment of disease. Our Association should assert itself in formulating an acceptable status for the trained nurse, and the educational fundamentals requisite for her work of service.

SEMIANNUAL MEETINGS OF THE HOUSE OF DELEGATES

Some discussion has been engaged in as to whether our House of Delegates might not well meet at a time other than that during which our scientific assembly meets. To do so would be a serious error and would disassociate our membership solidarity. The question is naturally injected, Are not the affairs of our Association of sufficient moment and importance to warrant two meetings a year of this House? Would it not be advantageous, would it not materially aid in the solution of our problems and increase the scope and value of our organizational activities to hold a midwinter three-day session at our headquarters in Chicago? It would seem that such a plan would be advisable and result in maintaining a continuous scope of associational endeavor with no letup during the final two months waiting to ascertain what this House will do at its annual session. The suggestion is submitted for your consideration.

POLITICAL ACTIVITY

Legislatures, Congress and civic governments will continue with greater avidity to concern themselves with the problems of health and the work of physicians and health agencies. Health officers and health agencies are going to extend themselves to broader fields and are not going to be overconsiderate of the doctor unless he is represented in their councils and causes them to be not unmindful of his rights and work. It is with no little regret that we observe this tendency on the part of these health officials, some of whom even seek to warp to their support the prestige of our Association. When not successful they seek to attain their ends by national and state legislation. Our interests and that of the individual doctor, no matter what his location or position may be, must be conserved. We have too long been silent and permitted the individual doctor to remain the undefended party in the encroachments made on his professional labors by legislatures, Congress, insurance corporations, industry and organized meddlers of so-called "uplift movements." The individual practitioner's interests warrant our deepest concern and his future welfare merits our solicitous and combined assistance. Willing as he always has been and will be to contribute his 100 per cent, to the welfare of mankind, he should never again be made the victim and the object of such enactments as the Harrison Law, the Medicated Alcohol Rulings, the Sheppard-Towner Bill, and similar legislative enactments without our standing by his side and presenting in his behalf our associational influence and arguments for his protection against inadvised imposition and unjustified attack. Representation must be secured and made in his behalf for his individual interest is our collective concern.

Provision must be made to present his individual and the profession's collective rights and interests at all such future hearings that such bills in Congress may necessitate. In addition, this Association should and must aid our component state organizations in legislative matters arising in different states that affect the interests of our members residing in those states. Let us remember that what is stirring the world's heart, changing the face of the times and representing the form and working of the age is that intelligence, that sentiment, those thoughts and opinions whose written and spoken word is power. Such power is ours provided we formulate an acceptable ideal that will impregnate the activities of our associates in the readjustment of medical contact with the people who compose our constituency.

Therefore, if in your deliberations you adopt the recommendation made regarding the Council on Health and Public Instruction and provide for greater activities on its part, I would then further recommend that this duty of representation in behalf of the doctor individually and the profession collectively be delegated to that Council and that it be charged to call to its support the Association's resources to present our interests and maintain our rights to their furthest ability in all such legislative proposals. A legislative bureau, national in scope and activity, should be established at our headquarters.

OFFICERS OF OUR ASSOCIATION

I cannot refrain (I would be remiss if I did) from expressing appreciation and tribute to the executive officers and Trustees of our Association. For some ten years I have been in more or less personal contact with them and each succeeding year the impression becomes firmer that they are laboring in our behalf to the fullest capacity that we permit them.

Particularly do I wish to pay respects to Dr. George H. Simmons, our General Manager and Editor. That which we are, the position that this Association holds in the world today, THE JOURNAL that we own and which is the peer in the entire world of all medical journals, our Chicago Headquarters, our financial stability and our organizational prestige, are due in large measure to the executive, perceptive and diplomatic ability that he possesses. I am sure that you join me in tendering to him our expression of appreciation and continued confidence. Combined with our gratitude we are fervent in the wish and hope that years may be peaceful and long and kind ere he enter into the shadows of the foothills to rest in the eventide of life to await the final summons of that other world. As he carries on in our behalf until that time comes I want to assure him that we are indeed grateful for that which he has accomplished for our good.

CONCLUSION

This House is the open forum of the Association and its component organizations, which you as delegates represent. The floor of this House is open to every delegate for the discussion of the problems, the interests, the welfare and the future of your constituents and associates, as long as you conform to the provisions of our Constitution and By-Laws. It is not the place for the furtherance of selfish, clique or selected group interests. Mindful of all of which, I bespeak your cordial and frank cooperation in my endeavor to acquit myself of the duties that fall upon me as your Speaker during your deliberations in this, our Seventy-Fifth Annual Session.

Reference Committees

After the delivery of his address, the Speaker announced the following Reference Committees:

SECTIONS AND SECTION WORK

T. S. Cullen, Chairman.....Maryland
A. E. Bulson, Jr.....Indiana
J. W. Bell.....Minnesota
Henry Linsz.....West Virginia
W. G. Lyle.....Georgia

RULES AND ORDER OF BUSINESS

Edgar A Hines, Chairman.....South Carolina
E. A. Pray.....North Dakota
F. T. Kidder.....Vermont
George Reeding.....New Jersey
D. E. McGilliway.....Washington

MEDICAL EDUCATION

J. Rilus Eastman, Chairman.....Indiana
E. Eliot Harris.....New York

W. F. Bacon.....Pennsylvania
F. B. Lund.....Massachusetts
J. F. Siler.....Army

LEGISLATION AND PUBLIC RELATIONS

J. H. J. Upham, Chairman.....Ohio
Holman Taylor.....Texas
W. R. Stiner.....Connecticut
A. W. Hornbogen.....Michigan
C. E. Humiston.....Illinois

HYGIENE AND PUBLIC HEALTH

J. D. McLean, Chairman.....Pennsylvania
A. T. McCormack.....Kentucky
J. A. Pettit.....Oregon
J. W. Vanderslice.....Illinois
H. M. Brown.....Wisconsin

AMENDMENTS TO THE CONSTITUTION AND BY-LAWS

J. E. Lane, Chairman.....Connecticut
B. L. Bryant.....Maine
J. S. Holmes.....Florida
J. A. Witherspoon.....Tennessee
L. J. Moorman.....Oklahoma

REPORTS OF OFFICERS

Rock Sleyster, Chairman.....Wisconsin
James F. Rooney.....New York
L. H. McKinnie.....Colorado
J. D. Brock.....Michigan
H. G. Stetson.....Massachusetts

CREDENTIALS

J. E. Rockefeller, Chairman.....Iowa
R. E. Schlueter.....Missouri
J. W. Barksdale.....Mississippi
Earl Whedon.....Wyoming
G. S. Brown.....Arkansas

MISCELLANEOUS BUSINESS

Southgate Leigh, Chairman.....Virginia
J. F. Highsmith.....North Carolina
Albert Soiland.....California
A. G. Dunn.....Nebraska
J. D. Heacock.....Alabama

Dr. D. W. Haines, Ohio, moved that the list of Reference Committees appointed by the Speaker be approved.

Seconded and carried.

Dr. Arthur T. McCormack, Kentucky, moved that the Speaker be authorized to fill any vacancies in the appointed list of reference committees:

Seconded and carried.

Address of President Hubert Work

The Speaker introduced the President, Dr. Hubert Work, Pueblo, Colo., who delivered the following address, which was referred to the Reference Committee on Reports of Officers.

Mr. Speaker, Members of the House of Delegates, and Ladies and Gentlemen.

The House of Delegates has before it at this Session an enticing picture, but it has heretofore been so tolerant of my suggestions that I shall address you as one who, having been much privileged, presumes upon it.

You will recall that the districting of the United States for the allocation of trustees has been twice before you. To the segregating of the United States into groups, in the interests of the Association and its members, I am wholly committed. Within recent years several medical societies have been organized designated by valleys, numbers of states or other distinguishing and limiting titles. The very formation of such medical associations is evidence of their necessity to physicians of localities and to their medical progress.

Different sections of the United States have local disease problems requiring special discussion; of little interest to physicians of the United States as a whole, and, too, physicians need wider personal contact than is now possible from the annual meetings of the Americal Medical Association or its special societies.

The long travel and time necessary for most of our membership to attend the annual meetings of the Association are prohibitive, and its great membership would otherwise make a general assembly impossible.

I am convinced that in the interests of our membership the United States should be divided into several districts, as you may determine, and that each district, in addition to electing a Trustee of the Association, should regard itself as an active section of it.

The officers and organization of these subdivisions should of course be governed by uniformity, precisely as state societies now are. They could meet in midwinter for discussion of their local problems, together with suggestions and policies to be recommended to the American Medical Association at its annual meeting.

The parent association could do the necessary printing and advertising, so that the expenses of organization usually incurred would be thus avoided. This is a time of decentralization rather than concentration of initiating officials; of expanding units rather than carrying dependencies and helpless in themselves. I continue to believe that each section should nominate to the House of Delegates its choice for a President-Elect, such nomination to be suggestive, and not obligating.

COUNCILS

The standing councils of the Association, as now organized, are properly constituted but not adequate. Their members are all essential men in other exacting fields, which exhaust their energies and compel their time. It would appear that the secretaries of these councils should have their initiative developed and their authority expanded and those of the councilors understood to be advisory only.

ORGANIZATION

Periodically, the Association is criticized by one, or a small group of members, apparently actuated by destructive motives veiled by a demand for reorganization. The charges are usually built around the complaint that the Association is dictated by a few men in their own interests. Part of this statement is true. This Association, and all others, even the National Government, is directed by a few men for the principal reason that there is no other way to do it. That it is run in the interests of these few men is not true unless the expenditure of time, thought and money, with neglect of personal business, may be so construed. It has uniformly happened that those who have tried to break in, by first breaking down, have been members who have done nothing to build up. Reorganization is a continuing process, and is best accomplished from within. The daily changes in working procedure in an organization necessitate readjustments which in itself is reorganization. Every member of the Association who has shown a disposition and aptitude and an inclination to interest himself in Association work has been sought out for his advice, placed on reference committees of the House, elected to the offices of his sections and called to headquarters for his opinions on new questions. Few realize the number of substantial Fellows who constitute the unnamed, unrecognized advisers who have had a potent voice in the management of this Association and who are a part of the reorganizing always in progress. Perhaps the growth of the Association from 8,000 to 80,000 in twenty years, the development of the vigorous special societies from its membership, and the tone of the journals published, constitute sufficient answer to the asserted necessity for a reorganization, which is interpreted to mean new officers.

THE DELEGATE

At the risk of tiresome repetition, I must again try to impress on you a real realization of the dignity, the opportunity and the importance of the office of delegate to this House. Through the state and county societies, their field is the United States and they can, if they choose, be in fact, what they are now in theory, the American Medical Association. The public is demanding that it be given the benefit of the special knowledge physicians have for the purposes of better living; that it may be applied to public questions of vital concern to them. Human life is the paramount world problem. Health is essential to it. Physicians are supported by the people, who have become restive because they are compelled to pay

a fee for advice obtained on semipublic matters, and because so many physicians have so largely forgotten their plain relations to the body politic. The county medical society must become an open forum for those who support its members, and physicians may no longer seclude themselves if they would attain to their highest estate. No individual or no officer can supply the link between this powerful Association and the public, as can the delegate to this House.

CODE

We are united as a professional body under our code, but our tendency for each to go his own way is I think unfortunate. We cannot change our code if we would. We may change our interpretation of its application, for it is elastic, and applicable to any trade or profession, but its principle is a fundamental of civilization and governs all ethical human contact. Its moral aspect is the Golden Rule, and its business phase is that of fair dealing. There can be no professional cohesion without it.

"STATE MEDICINE"

"State medicine" has come to mean state aid in teaching medicine, state authority to enforce quarantine and the custodial care of a state's indigent sick. State medicine cannot be defined until its limitations have been fixed, and the public without it is beginning to believe that those of us who are opposing so-called state medicine, are against preventing disease, for state medicine as now practiced is limited to patients who are socially impossible or who are disease spreaders.

The public is entitled to know the legitimate limitations of a state's participation in the practice of medicine. States should not be prohibited from aiding in the education of medical students through their universities, while at the same time they are teaching law, dentistry, pedagogy and many of the trades.

Promiscuous medical treatment of disease, however, is not a state's function, and interference with it through any unit of government should not be tolerated by the public or by physicians. But in the last analysis, it will lie with physicians themselves whether or not states will treat the ambulatory sick it has quarantined. If physicians are not willing to do the necessary medical work, to become the agent of the state for that purpose, the state will have no option but to prescribe.

The practice of medicine must remain a process of personal contact, invoking the patient's right of selection and the direct moral responsibility of the physician, with a sympathetic reaction between the two.

An impersonal state cannot render an implied personal service. The weighing of the human element of the sick, their individual relation and response to a disease process cannot be expected from a state's hired man, although practicing medicine. It would be equally logical for the state to hire itinerant preachers, to hold services between trains, as to employ physicians on a salary to treat the sick, by contract, only when ill.

Not the least service the physician renders to his people is between illnesses; by his advice on the problems of living and his supervision and sympathy, so necessary to mutual confidence and to fixing his place in the community as a citizen.

There has been no point of contact provided by the Association for its ex-Presidents with the House of Delegates. After eighteen consecutive years of service in this House, in some capacity, I may no longer sit with you as one who belongs.

No contact of my life has afforded me the pleasure, stimulated my pride, as have your good fellowship, merciless judgments and repeated preferments. I lay down my official responsibilities to this Association with the keenest regret. I shall not again make contact with a group of men of similar quality; without thought of personal vantage; alert against surprise and influenced always for the welfare of others.

I will not attempt to thank you. There is a sadness in doing even the simplest thing for the last time, and I may not trust myself now. But I would like to say, as I am about to go, that neither the diversion of other duties I have assumed, nor time, nor distance, can rob me of the memories I shall carry away.

Address of President-Elect George E. de Schweinitz

The President-Elect, Dr. George Edmund de Schweinitz, Philadelphia, delivered the following address, which was referred to the Reference Committee on Reports of Officers, with the exception of that part of the address which discussed medical education, and this part was referred to the Reference Committee on Medical Education.

Mr. Speaker and Members of the House of Delegates:

It is a wise provision whereby he who has been chosen as President of the American Medical Association, shall, for one year prior to his induction into this high rank, serve as President-Elect. It is a wise and courteous provision whereby he is welcomed during this period to intimate acquaintance with the activities of the central office, and with the work of the great plant of which it is the nucleus, and to the meetings of the Board of Trustees and those of its Executive Committee. Except under unusual conditions, in no other way can he become familiar with the duties and responsibilities of his important office. Such opportunities having been freely offered to the present incumbent, and gladly accepted, it would seem proper that he should report briefly to the House of Delegates some of his impressions.

With THE JOURNAL and its wide influence all are familiar. Less well known, perhaps, are the expert considerations which contributions offered receive from all standpoints, constituting (and this opinion is based on a fairly large personal experience as an editor) an achievement in editorial efficiency which may be doubted is elsewhere excelled in similar circumstances. It is, therefore, proper to refer to the merits of a system which from lack of knowledge has sometimes been the subject of criticism. Let any member or Fellow of our Association, uninformed in this respect, visit the central offices, and for himself he may test the accuracy of the statement made.

The Council on Pharmacy and Chemistry has established an authority derived from the high character of its achievements, widely recognized here and abroad. This Council's investigations and its publications are of lasting benefit. Its appeal for an actively increasing cooperation of physicians and of the large pharmaceutical houses, along the suggestions made by Dr. Bevan, should not go unheeded and is herewith endorsed and emphasized. In none of the activities which pertain to our Board of Trustees does support more definitely belong than to the work of its Council on Pharmacy and Chemistry.

Directly in line with the work of this Council is the highly important report, in part prepared by three of its members, wherein is discussed the outstanding need of chemical research under more favorable conditions than exist today, devoted to the alleviation of human suffering—a report to which reference will elsewhere be made, with recommendation as to the action of this Association in relation to this important matter.

The strong appeal which the Propaganda Department is making to federal and state health officials, municipal health departments, teachers in schools and colleges, and editors of magazines and newspapers, in various parts of the world, is described in the report of the Board of Trustees. This reference to its work is made because it permits a reiteration of a recommendation that the central offices shall publish a magazine, wherein the information which the Propaganda Department and the Council on Pharmacy gathers shall be suitably arranged, edited and explained for the benefit of the lay public; wherein, too, the aims, results and value of legitimate medicine shall be clearly stated in contrast to the pretense of illegitimate practice and therapy, and to applaud the positive decision which has been reached in this respect.

The Council on Health and Public Instruction concerns itself with many widely ranged and important activities. So generous and far-reaching have been the activities, as well as the plans, of this Council that the idea presents itself that even larger usefulness might develop, were it possible, as it seems it would be, if greater concentration of its energies along certain lines were exercised. This thought was evidently in the mind of the Speaker of the House when he formulated his recommendation that the Lecture Bureau of Public Addresses should be recognized. This fits in with the suggestion which had been made and is now adopted, that through the medium of a special medical magazine for lay readers this object shall also be attained. Whether both of these plans shall be put into operation must be decided in future conference. The impor-

tant point is that the public desires and needs the information, and has a right to receive it.

Either as an adjunct of the Council on Health and Public Instruction, or as a separate and new department of the central office, a Bureau on Medical Legislation should be established. As a pattern, the Medical Legislative Conference of Pennsylvania may be taken. The function of this conference, which includes members from the state association, from the State Homeopathic Society and the Eclectic Society, working in harmony, is to care for all medical legislation presented at the state capitol. All bills presented are considered by the conference, and during the session of the legislature the conference keeps in touch with the medical men throughout the state, and sees to it that its members shall consult with the legislators from their several districts. In brief, every bill concerned with health legislation is either advocated or opposed by the conference. Certain suggestions already presented to the Trustees of the American Medical Association are that a National Medical Legislative Conference shall be formed, in touch with the legislative bureau of the central offices, or as part of it, which shall look after legislation at Washington, whose object shall be to prevent vicious medical legislation, and care for the interests of the profession at the National Capitol. This proposition has met with the approval of the Executive Committee of the Board of Trustees of the American Medical Association, and is now presented to the House of Delegates for their action. It is the belief of many who have seriously considered this subject, among whom your President-Elect includes himself, that had such a legislative bureau been in operation, certain objectionable bills of national import, which have been enacted in law, might have been prevented, or at least modified. Activities along these lines have not escaped the attention of the central office, and there has been no failure of interest in this respect, so far as the present organization is concerned, but this does not lessen the need for the formation of a legislative bureau, whose prime function shall be to have in constant active consideration such responsibilities and duties.

The work of the Council on Medical Education and Hospitals and the result of its efforts are too well known to require review. Its achievements have commanded the respect and commendation of all concerned with the advancement of medical education in this country, and they demonstrate how well the purpose for which our Association was founded has been maintained. The medical schools of the first class all over our land are confronted with important problems, which, although frequently considered, are not as yet solved, or, indeed, in many instances have not approached a satisfying solution. In their varying relationships they are discussed in the report of the Council on Medical Education which will be presented today, and therefore what follows, and what shall follow tomorrow evening (prepared before this report was available), may be adjudged as a repetition. And yet these questions are so important (for certainly we are on the threshold of an elaborate, not to say drastic, reorganization, for instance, of the undergraduate medical curriculum), that no harm is likely to result if they are restated, perhaps in somewhat different terms and a few suggestions appended.

Yearly many qualified applicants (700 in one school during one year) for admission into our medical schools, ready to attempt the entrance tests, are refused because there is no room. Even if a considerable percentage of them should not succeed in meeting the entrance requirements, the remainder of the contingent would be large, and still there would be no room. Shall these men and women be allowed to drift, or shall an endeavor be made, either to place them, or, in the school concerned, to make space for them? We cannot afford, says the report of the Council on Medical Education, to have so limited a capacity in our better medical schools as to force well-qualified students into lower grade institutions. Agreed. It is reported that sixteen Class A schools, by certain changes in equipment and a certain addition to their teaching personnel, could increase the yearly enrolment of their medical students by about 1,500. This is a step in the right direction, but even so, it is not sufficient. It is a matter of record that a distinguished educator suggests that financial aid, now extended only to a few great medical schools, shall also be applied in strengthening "weak schools," to meet this emergency. During the last year many inquiries have come to the office of your President-Elect as to whether the central office of the American Medical Association is equipped to render aid, that is, aid to secure admission, to those who for lack of room are checked in their ambition to secure a first class medical education. Surely we are not willing to allow these men to drift, and thereby only too often secure entrance into low grade institutions, or, even more unfortunately, to swell the ranks of those who pose as "practitioners," unsupported by proper qualifications. Is it not, therefore, right that a committee shall be formed, as part of the Council on Medical Education, which committee shall have this matter in consideration, and be prepared to furnish the necessary information and the needed aid, as has been defined? It is recommended that this suggestion receive consideration.

Earnest, indeed, has been the attention which our Council on Medical Education has given the undergraduate curriculum, and yet all of us know it is not perfect, or near perfect. Such questions as to what old matter shall be rejected, what new matter shall be introduced, what present matter shall be recast, are still in discussion. Also, what shall be done to make a better balance of its contents to improve the art of medical teaching, and to secure a better cooperation of the various departments of each school, present problems as yet undecided. To all of these questions and problems the report of the Council addresses itself, largely in a quotation from a distinguished educator, whose clearness of thought commands universal admiration, and whose excellent suggestions are in the main endorsed; and yet even he stumbles a little in saying that "the professors of medicine and surgery can readily bring the essentials (as usually understood, it is assumed) of every specialty in their routine teaching." But the so-called specialties have reached a degree of importance in the general scheme of medical education which forbids their relegation to such a limited sphere of activity. True, he gets again into step in his recommendation that time should be provided for optional work, so that the student can enter any chosen special field for additional training; and also when he recommends that the clinician shall enter the domain now sacred to the specialists, bringing in the specialists to help him. This might better be reversed, although it may mean the same thing, by saying the specialists should enter the domain of the clinician and add such links from his forge as shall fit in with those of the clinician to make a perfect chain. This scheme was put into operation by the essayist in his department, and it was beginning to show encouraging results when the interruption of 1917-1919 intervened, and he was obliged to be absent for two years from his civilian work. The word "specialist" is an unsatisfactory designation. If the so-called specialist is worthy, he is a physician who by particular training along certain lines has acquired expert knowledge and technic, just as the internist is and has, albeit his range is a wider one. Neither, if he fulfils the obligations of his profession, can do without the other, and each must have sufficient education to recognize the indications which require cooperation.

The Council on Medical Education has at various times formed committees to make recommendations as to the construction of an "ideal" curriculum, each department of medicine and surgery being represented usually by a teacher in charge of such a department, and the results have been useful. But, because your President-Elect has, especially in the last year, had many consultations on this subject with practitioners who are not teachers in medical schools, and because of his presence during the last very inspiring meeting of the Association of State Secretaries, because he has had a number of conferences with earnest senior medical students, and finally, because he has just received an essay written by a young doctor who has just been graduated, a remarkable essay on "Medical Education from the Student's Standpoint," he ventures to suggest to the Council that a committee shall be formed whose personnel, in addition to the Chairman of the Council, shall include a few teachers of medical schools, some upstanding general practitioners, especially from outlying districts, our Field Secretary, or some of the State Society Secretaries, and carefully selected representatives from among senior medical students, or quite recent graduates (interns) whose duty it shall be to study this subject from their several viewpoints, and formulate recommendations to the Council. Well aware that this suggestion is open to the criticism that such a committee might represent discordant elements, and that no useful agreement could be reached, it is made only after careful thought, stimulated by the various conferences which have been named,

in the belief that data could be accumulated and opinions would be expressed which, transmitted to the Council, would, after proper elimination and digestion, serve an exceedingly useful purpose, in enabling the Council to continue recommendations (and make rewards) pertaining to the reformation of the undergraduate medical curriculum, which surely is an outstanding problem which needs solution.

Other phases of medical education—graduate and medical, extensive education—shall receive attention tomorrow evening, and it is hoped that such recommendations as are expressed may in due course be referred to the proper committees for action. These problems also, at least so far as graduate instruction is concerned, are fully discussed in the report of the Council on Medical Education and hence require no further mention at the present time.

The problem as to what shall be done to equalize the geographic distribution of medical graduates is one which is attracting much attention, and which demands continued consideration. Some of the plans for medical-extension education, in operation and in contemplation, may be of service in the solution of this question. They are elsewhere discussed.

It is well recognized that this matter does not pertain alone to the distribution of recent graduates, but also to physicians who for various reasons are willing to leave present locations and settle in communities more or less distant from larger centers. In general terms, regions sparsely supplied with physicians are known, but the knowledge is inexact, especially as this pertains to what may be called the chances of success, or, briefly, the opportunities. It would seem that a systematic survey of this situation is in order, and that information in this respect should be collected and filed for ready reference. As the Council on Medical Education and Hospitals is now engaged in a survey of dispensaries, group clinics, etc., it might readily add to its functions and undertake to acquire with particularity the facts and the evidence in the case in question: to constitute itself a reference bureau on the one hand, and, on the other, supply to the deans of medical schools, and to the authorities of various hospitals, information which could be utilized in meeting what in some regions is an emergency, and in many a pressing need.

While it is true that "resolutions adopted by the House of Delegates are an expression of opinion of this representative body of the medical profession of our country," it is also true, as must be evident, that occasionally a resolution may be presented and adopted which does not reflect the "majority opinion" of the membership of our Association; in other words, had this resolution come before the entire assembly, it would have been defeated. But such a resolution, it may be of large national import, cannot under our present regulations be considered in any other way. These statements are in no wise intended as a criticism of any previous action of the House of Delegates. Quite the contrary. But it is possible that in such circumstances, had the House been in possession of more information, the vote might have been different, or at least, it would have been cast with a fuller knowledge of all the evidence in case. All this is a preamble to the thought that some plan shall be evolved whereby such information shall be available, in addition to that which is brought out in discussion prior to the vote. It has been suggested, and wisely, that whenever feasible important problems, material, in short, which is sure to come before the House at its annual meeting, shall be published in the Bulletin, which has most judiciously widened its scope of activity, giving thus an opportunity for all of our Association members to express their opinions through its columns on the pending problems. A semiannual meeting of the House of Delegates, urged by the Speaker of the House, is a long step in the right direction, and his recommendation is heartily endorsed. The relation of the individual members of the House of Delegates to this matter has been clearly defined in the address of the President.

It will be admitted that for the right judgment of any man or any organization it is essential to recognize his or its good qualities before pronouncing on those which have escaped their designation or have not attained to it. Your President-Elect hence desires to express his sincere admiration of the activities of the authorities of the central offices, whose method and system and conscientious work have resulted in effective results, especially effective in consideration of the many varied questions which constantly present themselves for solution. He ventures, with all due deference, to urge a speedy perfection of the newest plans now in contemplation for an even greater attention in the future than in the past to what may be called the "profession of coordination," not alone as this pertains to the work of the various Councils, but in a larger sense as it pertains to the constituent and component societies throughout our land, and therefore to the profession at large and their and our insistent problems.

One comparatively minor matter follows: During a visit to the Far East (China, Japan, Korea), representatives of the American Medical Missionaries requested your President-Elect to ascertain whether by any plan they might form an affiliation with the American Medical Association. They feel that could such an affiliation be established, it would lessen their sense of isolation from the medical interests and activities of their home country. Their request was unofficially brought to the attention of the Board of Trustees, and is now restated for action by this House after reference to the proper committee, in the hope that the wish of these men may be realized.

This address contains no special reference to a number of important problems related, for example, to "state medicine," community hospitals, group clinics, etc., not because of any unwillingness to discuss them, but to avoid repetition, as either they shall be touched upon on another occasion, or because they form part of other addresses.

Your President-Elect desires to express his high appreciation of the courtesy which during the past year has been extended to him by the President, the Editor, General Manager, the Board of Trustees, the Speaker of the House, and many of our members, with whom he has had frequent conferences, and once more to pledge the best service of which he is capable.

Report of Secretary

The Secretary presented his report, which was referred to the Reference Committee on Reports of Officers, with the exception of that part which referred to Amendments to the Constitution and By-laws, and this part was referred to the Reference Committee on Constitution and By-laws. (See page 1613.)

Dr. Joseph A. Pettit, Oregon, moved that the reports of the various officers and reports of Councils, as printed in the Handbook, be not read in detail but in abstract form, emphasizing the essentials or pointing out any additions that might be made to these reports.

Seconded and carried.

Report of Board of Trustees

Dr. William T. Sarles, Wisconsin, Chairman, presented the report of the Board of Trustees, which was referred to the Reference Committee on Reports of Officers. (See page 1615.)

Report of Judicial Council

In the absence of Dr. M. L. Harris, Illinois, Chairman of the Judicial Council, the report was presented by Dr. Randolph Winslow, Maryland, and was referred to the Reference Committee on Amendments to the Constitution and By-laws. (See page 1622.)

Report of Council on Health and Public Instruction

Dr. Victor C. Vaughan, District of Columbia, Chairman, presented the report of the Council on Health and Public Instruction, as well as the reports of subcommittees of the Council on Health and Public Instruction, which were referred to the Reference Committee on Hygiene and Public Health except that part discussing the establishment of a legislative council or bureau, which was referred to the Reference Committee on Legislation and Public Relations. (See page 1623.)

Report of Council on Medical Education and Hospitals

Dr. Arthur Dean Bevan, Illinois, Chairman, presented the report of the Council on Medical Education and Hospitals, which was referred to the Reference Committee on Medical Education. (See page 1627.)

Report of Council on Scientific Assembly

Dr. J. Shelton Horsley, Virginia, Chairman, presented the report of the Council on Scientific Assembly, which was referred to the Reference Committee on Sections and Section Work. (See page 1636.)

The time having arrived for adjournment of the morning session, it was moved that the House of Delegates continue in session.

Seconded and carried.

The House of Delegates then considered new business.

NEW BUSINESS

Resolution on Prescribing of Alcoholic Liquors

Dr. J. D. Brook, Michigan, offered a preamble and resolutions on the prescribing of alcoholic liquors, which was referred to the Reference Committee on Legislation and Public Relations.

Resolution on Vocational Training for Disabled Soldiers

Dr. R. E. Schlueter, Missouri, presented preambles and resolutions condemning assignment of trainees to chiropractic schools, which were referred to the Reference Committee on Legislation and Public Relations.

Resolutions in Memoriam of Dr. Joseph N. McCormack

Dr. E. Eliot Harris, New York, presented the following:

Dr. Joseph N. McCormack of Kentucky is dead.

The pioneer work of reorganizing this Association from the chaotic condition that prevailed at the Semicentennial Celebration at Philadelphia in 1907 to the perfect working order of today was largely due to his untiring efforts as Chairman of the Committee on Reorganization. He came to New York to aid us in our plan of uniting the Association and Society, and performed similar work in unifying the profession throughout the United States. I move that a special committee be appointed by the Speaker to prepare a suitable memorial to be presented to this House.

Seconded and carried.

The Speaker stated that he would appoint the special committee later.

Resolution on "State Medicine"

Dr. James F. Rooney, New York, presented a resolution defining "state medicine," which was referred to the Reference Committee on Legislation and Public Relations.

Resolutions on Alcoholic Liquors and Governmental Medical Activities

Dr. Randolph Winslow, Maryland, presented resolutions on the prescribing of alcoholic liquors and on governmental medical activities, one of which was referred to the Board of Trustees, and the other to the Reference Committee on Legislation and Public Relations.

Resolution on Legislation

Dr. William Gerry Morgan, District of Columbia, presented a resolution, which was referred to the Reference Committee on Legislation and Public Relations.

Amendments to Constitution and By-Laws

Dr. George F. Keiper, Indiana, presented amendments to the Constitution and By-laws, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Resolutions on Narcotic Addiction

Dr. Charles E. Humiston, Illinois, presented resolutions endorsing House Resolution 258 introduced by Hon. L. D. Volk, which were referred to the Reference Committee on Legislation and Public Relations.

Resolutions on Medical Relations with the Public

Dr. Ben R. McClellan, Ohio, presented resolutions defining the relation of the public to the medical profession, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Resolutions on "State Medicine"

Dr. R. L. Green, Illinois, presented a resolution opposing "state medicine," which was referred to the Reference Committee on Legislation and Public Relations.

Dr. R. L. Green, Illinos, presented two other resolutions, one of which was referred to the Reference Committee on Amendments to the Constitutions and By-laws, and the other to the Reference Committee on Legislation and Public Relations.

Resolutions on Membership

Dr. C. Van Zwalenburg, California, presented a resolution on transfer of membership, which was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Amendements to the By-Laws

Dr. Thomas C. Chalmers, New York, presented amendments to the By-Laws, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Resolutions on Health Education of the Public

Dr. C. D. Selby, Ohio, presented preambles and resolutions on health education of the public, which were referred to the Reference Committee on Hygiene and Public Health.

Resolutions on Establishment of Legislative Bureau

Dr. George Edward Follansbee, Ohio, presented preambles and resolutions on the establishment of a legislative bureau, which were referred to the Reference Committee on Hygiene and Public Health.

Committee to Draft Memorial Resolutions

The Speaker appointed as a special committee to draft suitable resolutions on the death of Dr. J. N. McCormack, Drs. E. Eliot Harris, New York, Chairman; L. S. McMurtry, Kentucky; Holman Taylor, Texas, and D. E. Sullivan, New Hampshire.

Amendments to the Constitution and By-Laws

Dr. C. F. Mongan, Massachusetts, presented amendments to the Constitution and By-Laws, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Resolution on Nomenclature

Dr. Edgar A. Hines, South Carolina, presented a preamble and a resolution on simplification of medical nomenclature, which were referred to the Reference Committee on Miscellaneous Business.

Amendment to Constitution

Dr. J. H. J. Uphan, Ohio, presented an amendment to Article V of the Constitution, which was referred to the Reference Committee on Amendments to the Constitution and By-Laws.

Adjournment

On motion, which was duly seconded and carried, the House of Delegates adjourned until 9:30 a. m., Tuesday, May 23.

(To be continued)

Fad of Replacing the Uterus.—The multitude of pessaries, intra-uterine and vaginal, which marked the displacement era of sixty years ago, have almost all disappeared into museums as antiquities or curiosities, and now the ring is almost the only survivor. In the surgical area through which we are now passing the modern counterpart of the pessary inventor is the deviser of suspensory and sling operations on the uterus. The woman with a uterus that will not sit up straight can have a tuck taken in its round ligaments, or have it held up by the ligaments being stitched to the abdominal wall, or delicately supported by the ligaments being clasped behind its back, and so on ad infinitum. The attitude of mind of these suspenders of the uterus is precisely that of the mid-Victorian pessary monger; their methods only have changed with the times, and these operations are quite as much overdone as the pessaries were, but do less harm. There is not the bad mental effect of continuous pessary wearing with the recurrent need for changing, and there is the advantage that the patient has two or three weeks in bed with a change and convalescence, together with the strong suggestion that now he errant womb has been made right she also ought to be right.—J. S. Fairbairn, *Brit. M. J.* **1**:587 (April) 1922.

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SATURDAY, MAY 27, 1922

CATERPILLAR DERMATITIS

With the approach of the season in which caterpillar rash is occasionally brought to the attention of physicians, the paucity of dependable information regarding the peculiar forms of dermatitis attributed to various species of urticating caterpillars obtrudes itself upon our consideration. Larvae producing objectionable effects on man are world wide in their distribution, the most offensive species being assigned to South American countries. A few years ago, when the brown-tail moth became prevalent in eastern New England, a peculiar type of dermatitis, urticarial in character, and attributable to contact with the insect in the caterpillar stage, was reported. It was then supposed, as had often been asserted by observers of the irritation of the skin by caterpillars in other parts of the world, that certain short structures termed "nettling hairs" are responsible for the cutaneous injury. These barbed spines of the larvae are peculiarly adapted in structure to enter the skin. In the case of the brown-tail moth they form straight, tapering, needle-pointed shafts, barbed for their entire length after the manner of certain forms of African spearheads. They vary from 0.07 to 0.2 mm. in length, with an average of $\frac{1}{250}$ inch, and are not more than 0.005 mm. in diameter at the thicker extremity. Since other hairs of either the caterpillar or the moth produce no irritation, Tyzzer,[1] who investigated the problem in the suburbs of Boston, where the outbreaks of dermatitis were common a few years ago, concluded that mere injury will not account for the pathologic manifestations. He believed that the nettling hairs, which from their shape are perfectly adapted for penetration, possess, in addition, an irritating substance which is undoubtedly an important factor in the production of the dermatitis. This substance may be destroyed by heating the nettling hairs at 115 C. either in a fluid or with dry heat, or it may be extracted from them by certain solvents, such as dilute solutions of alkalis at room temperature, or water heated to 60 C. Nettling hairs inactivated by either of these measures produce no more than a slight redness when rubbed into the skin, and probably act then merely as foreign bodies.

A similar situation has recently been revealed in respect to the pathology of the dermatitis caused by the Texan puss caterpillar, *Megalopyge opercularis,* which has become sufficiently widespread at some seasons in Texas to require public measures for the control of the pest. The severity of the sting which the larvae at all stages are capable of inflicting, with an intensity depending on the size of the offending organism, varies with its location and the thickness of the skin affected. There is at first a localized, painful area of erythema, which burns intensely. Small vesicles then appear; whitish spots on the red background and slight swelling may be present in the vicinity of the lesion. Sometimes a sting on the wrist will cause a swelling of the entire arm. There may be generalized symptoms of numbness in the part affected, or even in other limbs, with a pseudoparalysis. In children the symptoms may be particularly aggravated, according to the reports of Texan observers.

According to the investigations of Foot[2] in the Department of Comparative Pathology at the Harvard Medical School, the dermatitis caused by contact with the larva of *Megalopyge opercularis* is produced by a poison introduced by the hollow, specialized setae of its cuticular tubercles. It is not produced by the ornamental hairs or by the tissue juices of the animal. The poison appears to be of the nature of a venom, combined with protein vehicles, and may be itself a protein. It is rendered inert by boiling, or by heating to 55 C. for a considerable period of time. It is apparently stored in sacs at the base of the setae, but whether secreted there or by hypodermal glands remains to be determined. It diminishes in virulence after the larva has spun its cocoon, and is no longer active after the caterpillar is dead. The poisonous spines cause localized necrosis of the human epidermis, followed by the formation of small vesicles. The cellular reaction to the poison is chiefly lymphocytic.

The medical problems of the stinging caterpillar have received less consideration than the subject deserves; in fact, the phenomena of caterpillar dermatitis are rarely recognized as coming within the province of the physician. In addition to the brown-tail moth and puss caterpillar just referred to, the more commonly encountered North American native caterpillars with urticating propensities include the flannel-moth, *Lagoa crispata,* the buck-moth, *Hemileuca maia,* the saddleback, *Sibine stimulea,* and the Io moth, *Automeris io,* the last probably being the best known. It is not generally realized that actual contact with the caterpillars is by no means necessary for the production of the objectionable rashes. Milder dermatitis has been produced by nettling hairs blown in the air and lodged on the skin or

1. Tyzzer, E. E.: The Pathology of the Brown-Tail Moth Dermatitis, J. M. Res. **16**: 43, 1907.

2. Foot, N. C.: Pathology of the Dermatitis Caused by Megalopyge Opercularis, a Texan Caterpillar, J. Exper. Med. **35**: 737 (May) 1922.

on undergarments exposed to such chance contamination. The similarity of the sensations produced by bee sting, mosquito bite or caterpillar injury has led to the trial of alkalis for immediate application, but without any remedial effect in the case of the moth dermatitis. The fact that the toxin is apparently soluble in alcohol warns against the use of alcoholic fluids. Until the nature of the poison becomes known, there is little prospect of rational therapy in advance of the soothing lotions commonly employed.

THE RENAL THRESHOLD FOR GLUCOSE

The approach to a tenable conception of what is involved in the now commonly heard expression "renal threshold for sugar" has come appreciably nearer through the demonstration that the so-called physiologic glycosuria represents for the most part miscellaneous carbohydrates, other than glucose, derived from the food and excreted more or less unchanged.[1] Making due allowance for this more or less unidentified component of every urine, it now appears that in the absence of emotional complications or a subnormal renal threshold (renal glycosuria), the ingestion of pure glucose (up to 200 gm.) does not raise the level of the blood sugar above the threshold in normal persons, and no glycosuria is obtained.[2] In other words, there is no true "glycuresis," in the sense in which this word has been defined by S. R. Benedict, after ingestion of large quantities of pure glucose by healthy man. Hyperglycemia does, of course, occur in such cases; but, according to the evidence furnished by Folin and Berglund, hyperglycemia definitely below the threshold does not normally produce the slightest leakage of glucose through the kidneys, and normally not a trace of absorbed and circulating glucose is lost. When glucose is excreted, it happens because the level of the blood sugar has risen above the normal threshold, or because the threshold itself is below the normal, as in renal glycosuria.

What is the physiologic mechanism by which the loss of glucose from the blood through the kidneys is ordinarily prevented? One hypothesis has referred it to glycogen formation averting excessive accumulation of sugars in the blood. Again, it has been assumed that ordinarily sugar is "bound" in some way in the blood so that it is no longer "free" or diffusible; elimination would then depend on the failure of the hypothetic sugar combinations in the organism. The latter view seems scarcely tenable in the light of present day information regarding the condition of the sugar in both corpuscles and plasma. In contradistinction to such theories, Folin and Berglund[2] have ventured the assumption that it is absorption by the tissues rather than glycogen formation that prevents excessive accumulations of the sugars in the blood. They assume that the tissues always contain at least as high a concentration of free sugar as the blood plasma, and probably more. The glycogen formation need not begin until the tissues have begun to possess a much higher concentration than that present in fasting. Much absorbed sugar can thus be distributed without any large increases of the sugar in the blood.

The rôle of the kidneys in relation to sugar is not ordinarily different from that of other tissues. Folin and Berglund argue that the strain comes only when the holding capacity of some tissues, including the kidneys, is exceeded. As a result of the strain thus produced, the kidneys are finally compelled to make use of a more efficient process than the glycogen formation for reducing the sugar concentration in the kidney cells, and the elimination of sugar suddenly begins. If the attempt to direct attention more prominently to the avidity with which the tissues absorb sugar, like other products, from the blood becomes justified, the term alimentary glycosuria will become a misnomer.

1. Physiologic Glycosuria, editorial, J. A. M. A. **78**: 1462 (May 13) 1922.

2. Folin, O., and Berglund, H.: Some New Observations and Interpretations with Reference to Transportation, Retention and Excretion of Carbohydrates, J. Biol. Chem. **51**: 213 (March) 1922.

THE EVOLUTION OF DIAGNOSTIC TECHNIC

The rapid expansion of the technic of clinical diagnosis is scarcely appreciated by those who have only recently entered the field of medical practice. To one whose experience ranges over a generation or more, the numerous and notable changes which modern science has introduced often seem little less than revolutionary. Blood chemistry was almost unknown as a diagnostic help only a few years ago; functional tests were among the rarities employed only by the most up-to-date physicians; radiology and electrocardiography were either undiscovered or unapplied. Sometimes the practitioner becomes impatient at the recital of such novelties at his command, and intolerant toward those who recommend the innovation. He avers that the newest devices are passing fads, and that too much attention to the latest test is a waste of time. Let us frankly admit that all too many recommendations of timely helps to diagnosis have failed to meet the expectations accorded to them. Nevertheless, out of the ever growing numbers of tests and procedures, a few always survive to enrich the diagnostic armamentarium of the clinician.

An instructive illustration of this fact is afforded by the recent work of Boyd[1] on nephritis in children. Her investigations show that the study of renal function furnishes at once the most reliable guide as to treatment and prognosis in nephritis. By this means, as Boyd says, a truer and earlier estimate of the gravity of the case can be made than by clinical observation alone. How, then, are the best criteria to be obtained? We are assured, on the basis of elaborate investigations

1. Boyd, Gladys L.: Nephritis in Children, Am. J. Dis. Child. **23**: 375 (May) 1922.

of the pathology of the nephritides in children, that "tests of renal function give invaluable aid in determining the prognosis and line of treatment. The concentration test and the determination of the blood nitrogen constituents furnish the most reliable data." Furthermore, consideration of the response to functional tests, coupled with clinical observation, enables one to foretell fairly accurately the outcome in individual cases.

To interpret the meaning of a phenolsulphonephthalein test or to judge the possible abnormality of a high urea or creatinin content of the blood calls for a real appreciation of chemical pathology in its latest aspects. How worth while this newer knowledge may become might be illustrated from numerous other instances of the correlation of modern biochemical facts with bedside observation and postmortem pathology. The medical profession is conservative in its tendencies, and for the most part somewhat slow to adopt innovations not made compulsory by great emergencies. An occasional retrospect and review of recent accomplishment may help to preserve the necessary attitude of tolerance, or better of encouragement, toward those engaged in the tedious task of developing our technic.

Current Comment

CAN BOTULISM BE CAUSED BY ANTI-HOG CHOLERA SERUM AND HOG CHOLERA VIRUS?

The connection of swine with *Bacillus botulinus* is still obscure. It is interesting to recall that, prior to the work of recent American observers, *B. botulinus* had been found but once in nature unassociated with outbreaks of botulism, and that this single finding was in swine feces. The observations by Meyer, Geiger, Burke and other investigators have not shown that *B. botulinus* is a common inhabitant of the animal intestine. Graham, however, has reported finding *B. botulinus*, Type A, in the tissues of swine, and has looked on certain pathologic conditions in these animals as a manifestation of botulism. This observer, indeed, has asserted that a large proportion of commercial anti-hog cholera serum and hog cholera virus is contaminated with *B. botulinus*. From the point of view of the live stock interests it would be a serious misfortune if confidence should be shaken in the use of preventive inoculation against hog cholera. The serious nature of Graham's assertion has been pointed out by Cahill, Jakeman and Munce.[1] These investigators have undertaken to appraise the correctness of Graham's conclusions, and have repeated his experiments in detail. The results obtained by them are directly contradictory to those reached by Graham. Examination of a large number of samples of anti-hog cholera serum and hog cholera virus failed to reveal the presence of *B. botulinus* or its toxin. Experimentally, *B. botulinus* did not produce toxin in the phenolized anti-hog cholera serum, and the same thing was true when *B. botulinus* was maintained in contact with phenolized hog cholera virus. The results of these two sets of investigations are so diametrically opposed that, until further investigations are made, Graham's conclusions as to the danger of botulism poisoning from anti-hog cholera serum and hog cholera virus call for a suspension of judgment.

1. Cahill, Jakeman and Munce: J. Am. Vet. A. **13**: 702, 1922.

DEATH OF PIONEERS IN RESEARCH ON TROPICAL DISEASE

Not many weeks have elapsed since THE JOURNAL [1] announced the death of Sir Patrick Manson, noted as an authority on tropical medicine. Now a cable from Paris announces the passing of Alphonse Laveran, another famous worker in the same cause, and winner of the Nobel prize in 1907. These two men probably did most to further, if not to found, the new science: Manson, with his demonstration that an insect, the mosquito, was the transmitting agent of filariasis (1879), and Laveran, with his discovery that malarial fever was caused by a parasite (1880). These two apparently simple facts were the solid foundation on which the science of tropical medicine was to be erected. Manson and Laveran broke the ground and opened a road which led Finlay to formulate his yellow fever stegomyia theory; Ross to identify the anopheles as the vector of malarial fever; Reed and the American Army Commission to prove so brilliantly Finlay's hypothesis, and Gorgas, Cruz, Noguchi and many others to put the new facts to practical uses and to venture further into new fields. French, English, American, Cuban and Japanese investigators have participated and cooperated in a series of epoch-making accomplishments which have benefited every spot in the world.

Association News

THE ST. LOUIS SESSION

Attendance Figures for the Annual Meeting

Reports from St. Louis, as THE JOURNAL goes to press, indicate a large attendance and a satisfactory session from every standpoint. On Monday 2,025 physicians registered, and on Tuesday 1,686, a total for the first two days of 3,711.

1. London Letter: J. A. M. A. **78**: 1401 (May 6) 1922.

The Rebirth of France.—Before the great war, France had begun to show alarming symptoms of depopulation, said Mademoiselle Chaptal in *Mother and Child*, May, 1922. Her decreasing birth rate was supposedly due to a lax moral sense. The gigantic upheaval produced by almost five years of war might have been expected to provoke an even greater depression of moral standards. But now, from all sides, comes an explosion of life which expresses a general determination to resuscitate the nation. Paris, for example, in 1913, had 48,609 births, and 44,385 deaths, while in 1920 there were 55,770 births and 43,057 deaths. In other words, the deaths in Paris equaled 91.3 per cent. of the births in 1913, and only 77.2 per cent. in 1920. Moreover, the deaths among children placed outside Paris with wet or dry nurses was 31.6 per cent. of all births, while in 1920 they were 18.1 per cent.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Hospital to Be Rebuilt.—The Sellers Hospital, which was destroyed by fire in March, will be rebuilt and equipped at a cost of approximately $75,000. The first floor will be exclusively for negroes and the other floors for white patients. It is expected that the institution will be ready for occupancy within five months.

ARIZONA

State Medical Meeting.—The thirty-first annual meeting of the Arizona Medical Association will be held at Prescott, June 14-15, under the presidency of Dr. A. L. Gustetter, Nogales. Following the meeting an excursion to the Grand Canyon will be arranged if a sufficient number signify a desire to take this trip.

CALIFORNIA

Medical Air Delivery.—Arrangements have been made by the San Diego Zoological Society for airplane delivery of antivenom serum to be administered to persons bitten by rattlesnakes in southern California.

Hospital News.—Ground has been broken for the new hospital to be erected at San Jose. The institution will have eighty-five rooms and will be fitted with modern equipment. ——The Fairmont Hospital, San Francisco, has been sold to Dr. Andrew W. Morton for $150,000, and was opened recently as the Santa Fé Hospital, with 100 beds. This hospital has no connection with the Santa Fé Railroad.——A new $500,000 hospital will be erected immediately at Los Angeles by the Congregational churches of southern California.

COLORADO

Society News.—The Colorado Congress of Ophthalmology and Oto-Laryngology will be held in Denver, July 28-29.—— At the annual meeting of the Morgan County Medical Society, Dr. Arthur F. William, Fort Morgan, was elected president, and Dr. Nelson D. Wells, Fort Morgan, secretary-treasurer.——The Colorado Hospital Association was recently organized as a geographical section of the American Hospital Association with Dr. Richard W. Corwin, Pueblo, president.

GEORGIA

Epidemic of Rabies.—It is reported that an epidemic of rabies has occurred in the state, more than 2,147 persons receiving the Pasteur treatment during the last year. This is an increase of 1,708 over the year 1910.

State Medical Association Elects.—The following officers were elected at the recent meeting of the Medical Association of Georgia: president, J. M. Smith, Valdosta; vice presidents, P. A. Tatum, Columbus, and A. R. Rozar, Macon; parliamentarian, M. A. Clark, Macon; delegate to the American Medical Association, W. E. McCurry, Hartwell; councilors, Charles Usher, Savannah; W. C. Lyle, Atlanta; J. O. Elrod, Forsyth; M. M. McCord, Rome; H. M. Fullilove, Athens; W. A. Mulherin, Augusta, and B. H. Minchew, Waycross. The next session will be held in Savannah.

IDAHO

Hospital News.—Plans have been completed for hospitals to be erected at Payette, Sunnyside and American Falls, the latter to be a hospital for tuberculous patients. Appropriations of $178,000 were made in 1919 but building was delayed owing to the high cost of materials and labor.

Personal.—Dr. Charles F. Magee, Moscow, has been appointed consulting physician and surgeon to the Veterans' Bureau of Moscow to succeed Dr. E. W. White, who was in charge of the vocational training at the University of Idaho and Washington State College.——Dr. Earl W. Fox has closed his hospital at Hailey to accept the position of superintendent at a hospital at Craig, Prince of Wales Island, Alaska.

ILLINOIS

State Medical Meeting.—At the seventy-second annual meeting of the Illinois State Medical Society held in Chicago, May 16-18, under the presidency of Dr. Charles E. Humiston, Chicago, the following officers were elected for the ensuing year: president, Dr. Edwin P. Sloan, Bloomington; president-elect, Dr. Edward H. Ochsner, Chicago; secretary, Dr. William D. Chapman, and treasurer, Dr. A. J. Markley, Belvidere.

Personal.—Dr. James W. Pettit has been elected president of the Ottawa Memorial Association.——Dr. James E. Watson has been appointed city health officer of Peoria to succeed Dr. Laurence R. Cary.——Dr. Anfin Egdahl, Rockford, has been appointed director of the state health laboratories of North Dakota.——Dr. R. V. Brokaw has accepted the position of full-time health commissioner of Jacksonville and Morgan County. Dr. Brokaw was formerly engaged as supervisor of hygiene in the public schools of Jackson, Mich.

Chicago

Scholarship in Physiology.—Dr. Sydney Walker, Jr., has provided $200 per annum for a scholarship for the furtherance of research in physiology at the University of Chicago. This will be known as the Sydney Walker III scholarship in physiology, in memory of his son.

Infant Welfare Stations.—The health commissioner of Chicago has established child welfare units at several police stations in the city, to which mothers may bring their infants under 2 years of age for systematic examination, and receive instructions as to the proper care of the child. Milk is not supplied, and this work is only carried out at stations in which the work will not interfere with police activities.

INDIANA

Physician Presents Civil War Instruments.—Dr. Joseph L. Preston, Cloverdale, recently presented to the Indiana State Museum the amputating case his father, Dr. Albert G. Preston, bought in Cincinnati, in 1840, and which he used throughout the Civil War. The instruments are in excellent condition, although this ancient relic of early surgery is now considered obsolete.

LOUISIANA

New Hospitals.—The new Eye, Ear, Nose and Throat Hospital, under construction in New Orleans, was open for inspection, May 12.——The cornerstone of the new Shrine Hospital, Shreveport, was laid by the Masons, May 12. This institution for the treatment of crippled children will be erected at a cost of $300,000.

MASSACHUSETTS

Judgment for Physician.—It is reported in the *Boston Medical and Surgical Journal* that, after fifteen minutes' deliberation, the jury, found for the defendant, Dr. Henry Colt, in a suit for $10,000, alleging malpractice.

Samuel Fuller Memorial.—The Massachusetts Medical Society has announced that the money for the Samuel Fuller Memorial Fund will not be taken from the treasury of the society, but subscriptions of not more than $5 are requested from the medical profession. When the fund is of sufficient size, it will be presented to the Plymouth Hospital as the Samuel Fuller Memorial, for the endowment of a free bed or ward, the income only to be used for its maintenance. Dr. Fuller was the surgeon of the *Mayflower* and came over with the Pilgrims in 1620. Suscriptions should be sent to Dr. Robert M. Green, 496 Commonwealth Avenue, Boston.

MINNESOTA

Joint Meeting of Bar and Medical Societies.—The Hennepin County Bar Association and the Hennepin County Medical Society held a joint meeting in Minneapolis, May 6, to consider the present unsatisfactory methods of adducing expert medical testimony in civil and criminal courts. Resolutions, drawn up by a joint committee of physicians and lawyers, were then adopted. They provide, in part, that physicians competent to qualify as expert witnesses on subjects of controversy in litigation shall be named annually by the Hennepin County Medical Society, and from this number, any trial judge, or one or more of the litigants in any suit, may select three or more to conduct a joint examination for the purpose of furnishing expert testimony relating thereto. Further, the selection of physicians by the court shall be made only on stipulation by the litigants, and in any case

in which the litigants cannot agree on the three names, each side may select one physician with the provision that the two physicians so selected may select a third. Further, the compensation for giving expert testimony shall be based on a schedule designated by resolutions of the medical society, and shall be payable through the clerk of the district court. Any physician giving testimony under this arrangement will be subject to cross examination by any one or more of the litigants in the case.

MISSOURI

Personal.—Dr. Edwin C. Ernst, St. Louis, was elected president of the American Roentgen Ray Society, central section, at the meeting held recently in Chicago.——Dr. Aden C. Vickrey, has resigned as superintendent of State Hospital No. 2, St. Joseph.

Ordinance Declared Unconstitutional.—The Humane Society states that the ordinance recently passed by the board of aldermen of St. Louis authorizing the sale of impounded dogs to reputable medical schools for experimental purposes, is unconstitutional, and the society threatens to test its validity in the courts.

MONTANA

Maternity Mortality.—Montana has the unenviable distinction of having the highest maternal death rate in the registration area, the statistics for 1920 showing that the maternal death rate per thousand living births is 9.9. In 1919, Montana had a death rate of 11.8 in 12,017 living births.

NEW HAMPSHIRE

New Community Hospital.—The contract has been awarded and ground was broken by the mayor, May 12, for the Elliot Community Hospital, to be erected at Keene. More than $270,000 was raised in a recent campaign for funds, and construction work will be started immediately.

NEW JERSEY

Midwife Fined.—It is reported that Mary Gross was arrested in March for practicing midwifery without a license. She pleaded guilty and was fined $200.

Milk Investigation.—Dr. William H. Park, director of the bureau of laboratories of the New York City Health Department, has been engaged by the board of health of Montclair to make a survey of methods of handling milk consumed in that city and to draw up a milk ordinance to replace the one now in force.

NEW YORK

Personal.—Dr. Charles E. MacDonald, Major, M. C., U. S. Army, recently received a silver star citation for gallantry in action during the operation against the Moros in the Philippine Islands, June 14, 1904.——Prof. Henry V. Arny, professor of chemistry in the College of Pharmacy, Columbia University, has been awarded the third Remington honor medal. Dr. Jacob Diner, dean of the school of pharmacy of Fordham University made the presentation at a dinner given to Professor Arny at the Hotel Pennsylvania, New York, by the New York Branch of the American Pharmaceutical Association.

Hospital News.—The new wing of the Bethany Deaconess Hospital, Brooklyn, was dedicated recently. This wing was erected at a cost of $250,000 and will accommodate 100 patients.——The Convalescent Home for Hebrew Children at Rockaway Park was formally dedicated, April 8, and will be open all the year for the care of crippled children. The old buildings have been renovated and two new wings added. ——Construction has been started on the new nurses' home at the Bushwick Hospital, Brooklyn.——A $90,000 addition will be erected at the Union Hospital, New York City.—— The contract has been let for the new addition to the Binghamton City Hospital to be erected at a cost of $88,000. ——Plans have been completed for the new maternity hospital to be erected by the City of Lockport, which will cost $50,000.——A $125,000 addition will be erected at St. Joseph's Hospital, Yonkers.——Open air dedication exercises of the Beth Israel Hospital, New York City, were held, May 14, when the sum of $40,000 for the maintenance of the institution was raised. The new building will accommodate about 125 beds and is now ready to receive patients.

New York City

Appropriations for Medical College.—The budget of Columbia University, as approved by the trustees, contains an appropriation for the medical school of the College of Physicians and Surgeons, New York City, of $690,181, an increase of $237,507 over the appropriation of 1916-1917, before the plans for cooperation with the Presbyterian Hospital were adopted. Provision is made for increases in the salaries of many of the instructors.

NORTH DAKOTA

New Community Hospital.—A state charter has been granted to the Drayton Hospital Organization for the new community hospital which will be erected at Drayton, for which the people of that city will pay.

OHIO

Personal.—Dr. John M. Withrow, president of the Cincinnati Board of Education was elected president of the Ohio State Association of School Boards at its first annual meeting.——Drs. Roy W. Scott and Marion A. Blankenhorn, both of Cleveland, have been appointed members of the American Society for Clinical Investigation.——Dr. Mont R. Reid, formerly of Johns Hopkins University, Baltimore, has been appointed associate professor of surgery at the University of Cincinnati College of Medicine.——Dr. James A. Beer, city bacteriologist of Columbus, has been appointed full-time health officer of the city.

OKLAHOMA

New Memorial Hospital.—The contract has been awarded by the Oklahoma State Soldier Hospital Commission for the soldiers' memorial hospital to be erected at Enid at a cost of $200,000.

State Medical Meeting.—At the annual meeting of the Oklahoma State Medical Association held at Oklahoma City, May 9-11, under the presidency of Dr. George A. Boyle, Enid, the following officers were elected for the ensuing year: president, Dr. McLain Rogers, Clinton; president-elect, Dr. Ralph V. Smith, Tulsa; vice presidents, Drs. Edmund S. Ferguson, Oklahoma City, William A. Tolleson, Eufaula, and Ernest B. Dunlap, Lawton, and Dr. Claude A. Thompson, Muskogee, secretary-treasurer-editor.

PENNSYLVANIA

Removal of Offices.—The offices of the Allegheny County Medical Society and the Pittsburgh Medical Bulletin have been moved to larger quarters at 5075 Jenkins Arcade, Pittsburgh.

Hospital News.—It has been announced by the department of public welfare that hospitals of the state expecting state aid will be required to establish a credit department similar to those maintained by business firms. This department will investigate and pass on the financial status of patients, in determining whether or not they should be cared for as charity or part pay patients.——The Allentown Hospital Association has purchased a site on which a hospital will be erected in the near future.——The cornerstone of the Northern Liberties Hospital, Philadelphia, was laid, April 2. The governor and the mayor participated in the ceremonies. The institution will be erected at a cost of $100,000.——The Baer Maternity Hospital, Allentown, has changed its name to the Baer Hospital for Women.——The contract has been awarded for the construction of the new Homestead Hospital building at Pittsburgh, to be erected at a cost of $189,000.

Philadelphia

Memorial to Dr. Everitt.—The Wilson College Club of Philadelphia has raised $800 as the beginning of a memorial fund for Dr. Ella B. Everitt, a trustee of the college, who was killed in an automobile accident last January.

Health Center.—The Germantown Health Center was inaugurated at the Morton Street Nursery, May 4, under the auspices of the Visiting Nurse Society. A medical advisory and working committee of twenty-five physicians, with Dr. Maurice J. Karpeles, chairman, and Dr. O. J. Day, secretary, are cooperating in the work.

SOUTH DAKOTA

State Medical Meeting.—At the annual session of the South Dakota State Medical Association, held in Huron, May 16-18, under the presidency of Dr. George S. Adams, Yankton, the following officers were elected for the ensuing year: president, Dr. Gilbert G. Cottam, Sioux Falls; vice presidents, Drs. Francis E. Clough, Lead, Robert L. Murdy, Aberdeen, and William R. Ball, Mitchell, and secretary-treasurer, Dr. Robert D. Alway, Aberdeen. The 1923 session will be held in Watertown.

TENNESSEE

Withdraw Aid from Clinic.—The venereal disease clinic at Chattanooga, which has been operated at a cost of $8,000 a year, of which the city paid two thirds and the state one third, will be closed, owing to a notice received that state aid will be withdrawn, June 30, as sufficient state and federal funds are not available.

TEXAS

State Medical Meeting.—At the fifty-sixth annual session of the State Medical Association of Texas, at El Paso, May 9-11, the following officers were elected for the ensuing year: president, Dr. Joseph D. Becton, Greenville; president-elect, Dr. Arthur C. Scott, Temple; vice presidents, Drs. Foster R. Winn, Alvin, Charles P. Yeager, Kingsville, and James A. Daniels, Carthage; treasurer, Dr. Khleber H. Beal, Fort Worth, and secretary-editor (reelected), Dr. Holman Taylor, Fort Worth. It was decided that no effort be made definitely to establish a policy as to state medicine, until it could be determined exactly what the term means, each case to be decided on its merits, and the principle to be considered being whether or not the practice denominated as state medicine constitutes organized, subsidized competition for the practitioner, whose interest is the interest of those he serves.

VIRGINIA

Personal.—Dr. R. Lloyd Williams, Norfolk, has been elected to fill the unexpired term of Dr. J. J. Miller, deceased, as councilor of the Medical Society of Virginia.——Dr. Percy Harris, Scottsville, has been appointed city physician of Lynchburg, to succeed Dr. Gilbert Crank.

Epileptic Colony to Be Enlarged.—Construction on a new dormitory to accommodate fifty women will shortly be started at the Virginia Epileptic Colony. An appropriation of $42,500 was recently made for this purpose and a similar appropriation will later be made available for construction of a dormitory for men. The colony now has 296 men and 231 women patients, the latter including epileptics and feebleminded.

GENERAL

Relief Workers Suffering from Typhus.—Three members of the American Relief Association stationed at Moscow, Russia, are suffering from typhus contracted in their work among the starving population.

Peking Union Medical College.—Prof. Donald D. Van Slyke, Ph.D., Rockefeller Institute for Medical Research, New York City, has accepted an appointment as visiting professor in biologic chemistry at the Peking Union Medical College, China, for four months beginning with the fall term of the next academic year.

FOREIGN

American Women's Hospitals.—The entire medical work of the districts of Ismid, Erivan and Alexandropol has been taken over by the American Women's Hospitals, in cooperation with the Near East Relief Committee of New York.

Australian Medical Elections.—At the annual meeting of the New South Wales Medical Association, held in Sydney, March 22, Dr. T. W. Lipscomb was elected president of the association and Dr. W. F. Litchfield, vice president.——At the annual meeting of the Tasmanian Branch of the British Medical Association held at Hobart, February 22, Dr. G. H. Hogg was elected president and Dr. E. Brettingham-Moore, secretary.

Japanese Medical Congress.—The sixth annual session of the Japan Medical Congress was held at Kyoto, April 1, and seventeen sectional meetings were opened, April 2-5, under the presidency of Dr. T. Araki, Kyoto. More than 3,000 members were present. Dr. T. Mita, Tokyo Imperial University Medical College, and Dr. R. Torikata of the Kyoto Imperial University Medical College, gave addresses at the meeting. The next session will be held at Tokyo in 1926, under the presidency of Dr. S. Sato.

Personal.—Dr. Athelstan John H. Saw has been elected chancellor of the University of Western Australia to succeed Archbishop Riley.——Dr. J. S. McArdle, professor of surgery at the University College, Dublin, and senior surgeon at St. Vincent's Hospital, at a banquet given him in Dublin in April, was presented with his portrait in oils, a sum of money to found a perpetual surgical prize of $100 at St. Vincent's Hospital, a gift of money to provide a gold medal in surgery for competition among the students of University College, and an automobile.——Dr. Fernand Widal, professor of clinical medicine, University of Paris, has been elected a member of the Academy of Sciences of Sweden.——A party of over seventeen French physicians has recently taken a trip to Spain, headed by Professor Roger, dean of the Paris medical faculty. They represent various universities, the medical press, etc. Labbé, Chiray and Weill-Hallé are from Paris, and Canuyt from Strasbourg. They expected to visit all the university centers in Spain, and our Spanish exchanges relate that they are being given a rousing welcome.——Prof. John Berg of Stockholm was elected an honorary member of the German Surgical Society at its recent congress, which had an attendance of 2,000.——Dr. G. Pevera of Novara, Italy, has been presented by the French government with a gold medal in appreciation of his work in combating epidemics during the campaign in Macedonia.

Deaths in Other Countries

Dr. **Edward Henry Taylor,** president of the Royal College of Surgeons, Ireland, and regius professor of surgery at Dublin University.——Dr. **Robert Shingleton Smith,** president of the Winsley Sanatorium, Bath, England, aged 76.——Dr. **H. W. Kaye,** director of the ministry of pensions medical department, London, commander of the Order of the Crown of Italy, April 21, aged 47.——Dr. **A. Laveran,** professor at the Pasteur Institute, Paris; recipient of the Nobel Prize in 1907; famous for his research work in malaria and lethargic encephalitis, May 13, aged 77.——Dr. **J. A. Raíces,** a prominent syphilologist and hygienist of Buenos Aires, member of the city council.——Dr. **Julius Frandsen,** chief of the Aarhus Hospital in Denmark, a frequent contributor to surgical literature, aged 60.——Dr. **J. Acero** of the Instituto Rubio at Madrid.——Dr. **Emiliano Núñez** of Havana, long chief of the Mercedes Hospital, at an advanced age.——Dr. **O. E. Nyström** of Göteborg, aged 55.——Dr. **Torres Casanovas,** professor of surgery at the University of Barcelona, one of the directors of the *Revista Española de Medicina y Cirugía.*

CORRECTIONS

"Visualizing Our Composition."—In THE JOURNAL, May 6, page 1393, in the editorial with this title, it was stated "the iodin in the entire blood amounts to but 0.01 gm., or an average dose of atropin." Obviously this should have been "1/100 of a grain."

Philadelphia.—In THE JOURNAL, May 20, p. 1546, it is stated that the College of Physicians adopted a resolution on the Pasteur centenary. We are informed that the resolution was introduced but not adopted. It is also stated that Dr. Fiske read a paper at this meeting. The secretary of the college writes that Dr. Fiske's paper was withdrawn from the program.

Government Services

Clinic for Veterans

An entire floor in an office building in Kansas City, Mo., will be utilized as a clinic for ex-service men. Equipment valued at $40,000 has already been installed. Examinations for ratings and compensations will be the primary object of the clinic and patients will be treated for ailments contracted while in the service. The clinic will care for 150 daily. The staff, consisting of twenty-two consultants, hydrotherapists, physiotherapists, psychiatrists, orthopedists and eye, ear, nose and throat specialists will be in daily attendance, under the direction of Dr. Paul F. Stookey and J. R. Smiley. A dispensary will be equipped for the outpatient department with a drug room in charge of a registered pharmacist, and a roentgen-ray room with developing apparatus will be operated in connection with the clinic.

Employment of Ex-Service Men

The U. S. Veterans' Bureau announces that they have 130,738 ex-service men in training, who are receiving instruction in every trade, industry and profession. They are completing their courses at the rate of 500 a month, and every person completing a course of instruction has become a skilled workman. The bureau, which is now endeavoring to have these men employed as soon as they complete their courses, requests that people wanting trained personnel communicate with the rehabilitation division of the bureau in Washington, D. C.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 1, 1922.

Insanity as a Defense for Murder

The trial of one Ronald True for murder is of considerable importance as regards the question of criminal responsibility. He strangled a woman, after spending the night at her flat, and decamped with her jewelry. The defense was insanity. He had fallen several times in an aeroplane during the war, and was addicted to the use of morphin. The prisoner was certainly an abnormal and dangerous person. He was very boastful, carried a loaded revolver always, and talked of founding a "murder club." Abundant medical evidence was given that he was insane, which was not disputed by the prosecution. The judge said, in summing up: "Insanity from the medical point of view is one thing; insanity from the point of view of the criminal law is another. Mere love of bloodshed is not of itself insanity. Boastfulness is not of itself insanity. There must be mental disease before there can be insanity from the point of view of the criminal law." Referring to the celebrated McNaughton case, which since 1843 has governed the question of criminal responsibility, and which says that for insanity to be accepted as a defense the prisoner must either not have known the physical nature of the act he committed or not have known that it was wrong, the judge said that he would put the law to the jury in such a way as to make possible a different understanding of the subject, in advance of the ruling in that case, and which he believed represented the views taken more than once by the court of criminal appeal and by many experienced judges. He put these questions to the jury:

1. Did the prisoner at the time of the murder suffer from mental disease? 2. Did he, at the time, suffer from such defect of reason, such disease of the mind, that he did not know the physical nature and quality of the act? If he did not he would be guilty, but insane. 3. Did he know that what he was doing was morally wrong according to the standard of his fellow citizens? If he did not, there again the verdict would be, "Guilty, but insane," although the prisoner was aware that what he was doing was punishable by law. Even if the prisoner knew the physical nature of the act, and that it was morally wrong and punishable by law, and yet was by mental disease deprived of the power to control his actions, then the verdict should be "Guilty, but insane." But this exemption should be applied with great care. It would never do to diminish unduly the doctrine of responsibility for criminal acts.

The jury found the prisoner guilty of murder.

Dispenser's Fatal Mistake in Preparing an Antimonial Solution for Injection

An inquest was held on the body of a man, aged 34, who was treated at a hospital for bilharziasis. He was given intravenous injections of sodium and antimony tartrate in increasing doses. After the last, he flushed considerably. It was found that the dispenser had made a miscalculation, with the result that the solution was ten times too strong, the calculation being based on 100 instead of 10. The man died two days later. The dispenser was a woman of seven or eight years' experience. The coroner said that the question for the jury was what amount of blame fell on the dispenser, who seemed to be competent and who had had wide experience. A genuine mistake that was in no way connected with negligence, recklessness or indifference to consequences was very different from gross and culpable negligence, and the jury would probably think this was a mistake that might occur to any one in the course of his work. The jury returned a verdict of "death from misadventure."

The National Council for Mental Hygiene

The formation of this council has already been announced in these columns. A well attended inaugural meeting has been held. A cordial and sympathetic message of welcome was received from the National Committee of Mental Hygiene of America. Sir Humphry Rolleston, president of the Royal College of Physicians, referred to the importance of detecting early functional disturbances. It was often said that we were all more or less on the way to being mad. At all events, we must not look on mental disorder as being somewhat rare or, if it affected ourselves, feel any shame on that account. The aims of the National Council were extraordinarily wide:

1. The encouragement, correlation and organization of means of communication between the various societies and associations concerned with mental hygiene. 2. The association with other national councils to form an international league for combined action and interchange of knowledge. 3. The study of the causation and prevention of mental disturbances, which are extremely common in this and other countries, and which have increased since the beginning of the war, including the study of environment, heredity and various poisons, such as alcohol and lead, the dangerous trades and syphilis. 4. The inclusion of mental hygiene as a permanent subject in medical education. 5. The establishment in general hospitals of special clinics for the early treatment of mental disorders, in such conditions as would remove the public prejudice against the word "mental," which implied that the person was not stable. 6. Improvement of the conditions attending treatment of mental disorders, particularly in the early stages, when a great deal of good can be done at home by the institution of social service. 7. Judicious propaganda.

Dr. Henry Head pleaded for the coordination of the results of highly specialized scientific work relating to the mental health of the nation. Mental hygiene was as important as sanitation. One said, in a relieved voice, "It's only nerves"; but so-called nerves produced more individual and corporate misery than cancer. They were evidence that something was wrong beneath the surface of our mental life. Had a knowledge of mental hygiene been more prevalent, we should have been spared the crazy exhibition of suggestion to which this country had recently been exposed (referring to the Coué lectures).

The Evolution of the Human Intellect

Prof. Elliot Smith is delivering the Morison lectures at the Royal College of Physicians, Edinburgh, and has taken for his subject "The Evolution of the Human Intellect." In his opening lecture, he said that it was now half a century since the serious discussion of man's origin began. But during all this time there had been a strange reluctance to attack the essential problem: how the human family came to acquire its chief distinction, intellectual superiority over all other living creatures. There had been much learned argument regarding the influence of the adoption of the erect attitude, the liberation of the hands from the function of locomotion, the loss of the tail, the acquisition of articulate language, and the loss of the hairy coat. But the real problem of the factors that so shaped the development of the brain as to make it the instrument of high powers of discrimination and foresight, and gave it the aptitude to put the hands and the muscles of speech to fuller and more skilled use, had never been seriously investigated.

Yet it could not be denied that the emergence of human traits was the result of these changes in the brain. In 1859, Darwin recognized the importance of this problem, but since then it had been almost ignored. Casts of the skulls of primitive members of the family, such as the ape-man of Java, the dawn man of Piltdown, and the recently discovered Rhodesian man and Neanderthal man, had shown a series of types differing from *Homo sapiens*. Thus, it became possible to appreciate the vast changes which had occurred in the human brain since it first came into being; and also to recognize that the assumption of the erect attitude and the perfection of the hands were not the essential causal factors in the evolution of man, but results of the attainment of human rank and the acquisition of a brain capable of bringing about more delicate manipulations and making man upright. Important discoveries of fossil apes and equally

important researches in comparative anatomy had, within recent years, definitely established the main lines of the pedigree of the human family extending back to the dawn of the tertiary period, and showed the factors responsible for the progress from a primitive mammal like a jumping shrew, through lemurs, lemuroids, the monkeys and the tailless apes, up to the ancestors of man himself. Study of the critical stages of this ancestry revealed that the essential factor in initiating this far-reaching process of intellectual development was the cultivation of vision by an arboreal animal which retained sufficient plasticity of structure to adapt itself and make the most of the opportunities which this wider vision of the world conferred. Precisely how this fuller use of the eyes for guiding and directing movements and for acquiring information acted in stimulating and developing the chief instrument of the mind will be discussed in the subsequent lectures.

PARIS

(From Our Regular Correspondent)

May 5, 1922.

Exchange of Lecturers Between the Universities of London and Paris

The first of a series of six lectures by English clinicians will be given, May 6, at the Faculty of Medicine of Paris, by Sir Sidney Russel-Wells on "The Circulatory Effects of Mitral Stenosis and Aortic Regurgitation." The lecturers and subjects for the remainder of the series are: Sir Wilmont Herringham, "Trench Fever"; Dr. Sampson Handley, "Lymphatic Pathology with Special Reference to Malignant Disease"; Prof. E. H. Starling, "The Mechanism of Compensation in the Heart"; Mr. H. J. Waring, "Acute Pancreatitis: Its Diagnosis and Surgical Treatment," and Prof. G. Elliot Smith, "Stereoscopic Vision and the Evolution of Man." Lectures by Sir Wilmont Herrington and Professor Starling will be delivered in French, and the others in English. May 22, 25 and 31, three advanced lectures under the auspices of the University of London will be delivered by French professors: Dr. F. Widal, professor of clinical medicine of the Faculty of Medicine of Paris, on "Antianaphylaxie;" Dr. H. Vaquez, professor of clinical therapeutics of the same faculty, on "De l'erythrémie (maladie de Vaquez-Osler)," and Dr. J. Babinski, associate professor, on "Des réflexes de défense." These lectures will be given in the Royal Society of Medicine.

Acclimatization and Cultivation of the Camphor Tree

Japan is the land of choice for the cultivation of the camphor tree and, as I have mentioned in previous letters (THE JOURNAL, Feb. 14, 1920, p. 473, and March 18, 1922, p. 830), it holds, at present, the monopoly for the production of natural camphor. To enable its citizens to control the celluloid industry, the Japanese government has, during the last few years, placed several restrictions on the export of raw camphor. American and European buyers have, therefore, been looking elsewhere for the product. Prof. A. Rolet, of the Agricultural School of Antibes, published in the *Revue générale des sciences pures et appliquées* a study of the principal regions where the cultivation of camphor might perhaps be successful. The camphor tree of Formosa *(Cinnamomum camphora)* grows very well on the coast of Algeria, and Dr. Trabut of Algiers has seen some very fine specimens in various nearby localities; for instance, in Algiers, Blida, Bougie, El-Milia and El-Hanser. This botanist has encouraged its culture for the camphor to be obtained from its leaves. In 1919, the bureau of forestry planted several acres of the tree in the forest of Doumia, the saplings having been supplied by the experimental garden in Algiers. In Italy, *Laurus camphora* is acclimatized in Naples, and near Rome, Pisa, Florence, the Riviera, and Isola Bella. In the Malayan islands, the first seeds of *Cinnamomum camphora* were planted in 1904, and the trees seem to be as fine today as those of the same age growing in Japan. Camphor trees are found also in Egypt, East Africa, and the islands of Madagascar, Reunion, Mauritius, Canary and Hawaii, and in Australia, California and South Carolina.

Dewey says that the northern limits for the culture of the camphor tree in the United States are Charleston and Summerville, S. C., Augusta, Ga., and Oakland, Calif. For fifty years, the camphor tree was cultivated in Florida as a garden plant or for hedges, but in 1905 gardeners began to ship a great number of the plants to other parts of the Southern states for the extraction of camphor, with the result that in 1912 the importation from Japan dropped considerably. It seems that there are many countries in which the camphor tree can be cultivated, but it does not grow rapidly; and as it requires a good soil and exposure, it seems to be virtually impossible, from an economic standpoint, to wait forty or fifty years for the development of a tree before felling it and distilling all its product. The cost of labor for the extraction of camphor from trees grown on plantations is also to be reckoned with, and we must ascertain whether it will be possible to meet the competition of camphor from Formosa and China, which is produced without much expense and is obtained from wild trees.

The Antituberculosis Campaign in France

A book recently published by the National Committee Against Tuberculosis, entitled "L'armement antituberculeux en France," gives some valuable information on antituberculosis societies in each department. The *Journal des praticiens* remarks, in an editorial, that the title of "armement antituberculeux" sounds hollow, as we are not armed against it and tuberculosis continues its destruction. The book undoubtedly makes an impression on the reader on account of the number of organizations mentioned throughout its pages. "What a number of dispensaries, preventoriums, fresh air resorts, sanatoriums, agricultural colonies, reeducation schools and honorary committees, at the head of which figure the names of presidents, ministers, a cardinal, bishops, rabbis and heads of reformed churches!" says the journal. Unfortunately, this armament made up of great men is not sufficient, if the cause of the disease is not attacked: alcoholism, the multitude of saloons, lack of hygiene, etc. "Physicians remind us," says the journal, "of industrious ants persisting in reestablishing order and harmony in their hill, which some one is continually striking with a cane. The strokes of the cane represent the shameful encouragement given by the government to the aristocracy of saloon and inn keepers, who exert a great influence on elections."

Marriages

BRUCE MARION M. PHELPS, Lowville, N. Y., to Miss Mary Azelie Hibbin of New Orleans, at Tela, Honduras, April 28.

BENJAMIN BLANTON DUTTON, JR., Winchester, Va., to Miss Anne Lougheed Carson of Riverton, Va., April 19.

JOHN HOWARD NEALL, Takoma Park, Md., to Mrs. Mamie Wilde Paulson of Washington, D. C., recently.

ARTHUR BRYAN CARR, War, W. V., to Miss Annie Crenshaw Armstrong of Richmond, Va., April 20.

ARTHUR WILLIAM KENAH AKERLEY, Newport, R. I., to Miss Emmeline Cleeland of St. Louis, April 15.

JAMES C. WOLFE, Bloomfield, N. J., to Miss Lillian Mott Cook of Branchville, N. J., April 1.

STANLEY M. TITUS, Spokane, Wash., to Mrs. Monroe K. Miller, at San Francisco, March 30.

EDGAR W. LOOMIS to Miss Addie Jane Walker, both of Dallas, Texas, March 15.

Deaths

St. Joseph Buford Graham ✠ Atlanta, Ga.; Medical Department, University of Louisville, Louisville, Ky., 188; formerly United States health officer of Savannah; specialized in pathology; member of the Royal Society of Public Health of London, England; was decorated by the American and Canadian governments some years ago for heroism, when he rescued a ship's crew of twenty-one men; was found dead in his laboratory, May 2, from the effects of poison taken inadvertently, aged 57.

Samuel Rapp ✠ New York City; Bellevue Hospital Medical College, New York City, 1875; formerly coroner of Rio Grande and Hinsdale counties; member of the Metropolitan Medical Society, Society of Medical Jurisprudence and the Medico-Legal Society, New York City; died, March 20, aged 66.

Howard E. Dean ✠ Braddock, Pa.; University of Pennsylvania School of Medicine, Philadelphia, 1904; formerly on the staff of the Hospital of the University of Pennsylvania, Philadelphia; surgeon to the Braddock General Hospital, where he died, May 3, aged 43, from uremic poisoning.

Alfred Helmholtz Riedel, New York City; Long Island College Hospital, Brooklyn, 1897; ophthalmologist to the West Side Dispensary, St. Marks Hospital, Knapp Memorial Hospital and Vanderbilt Clinic; died, May 8, aged 49, from an overdose of poison, presumably self-administered.

Robert Gamble Cabell, Jr., Richmond, Va.; Medical College of Virginia, Richmond, Va., 1870; for fourteen years superintendent of the City Home Hospital; Civil War Veteran; also a druggist; died suddenly, May 7, aged 74, at the Stuart Circle Hospital, from heart disease.

Jesse M. Garlington, Ottawa, Ill.; Missouri Medical College, St. Louis, 1869; Civil War veteran; for twenty-three years chief surgeon for the western division of the Baltimore and Ohio Railway; died, May 6, aged 76, at the Ryburn Memorial Hospital, following an operation.

William Graham Bryson, Elgin, Ill.; Medical Department of Columbia College, New York City, 1866; McGill University Faculty of Medicine, Montreal, Que., Canada, 1867; died, April 28, aged 80, at the Sherman Hospital, from cerebral hemorrhage.

James Daniel Murphy, San Francisco; Medical Department, University of California, San Francisco, 1896; member of the Medical Society of the State of California; died, May 6, at the St. Francis Hospital, aged 48, from acute appendicitis.

Thomas Joseph Calkins, Cleveland; Georgetown University School of Medicine, Washington, D. C., 1900; member of the Ohio State Medical Association; on the staff of the St. Alexis Hospital; died, May 8, aged 52, following a general breakdown.

Elmer Clay Fahrney, Hagerstown, Md.; Medical Department of Columbia College, New York City, 1889; formerly surgeon for the Pennsylvania Railroad and the Red Star Steamship Line; died, April 23, aged 60, at the Washington County Hospital.

Charles Kearns, Sr., Covington, Ky.; Medical College of Ohio, Cincinnati, 1863; member and at one time president of the Kentucky State Medical Association; Confederate veteran; died, April 30, aged 86, following a long illness.

Charlie C. Crawford, Bienville, La.; Memphis Hospital Medical College, Memphis, Tenn., 1901; member of the Louisiana State Medical Society; was shot and killed while driving his automobile, April 24, aged 42.

Joseph Francis Nutz, Kansas City, Mo.; University Medical College of Kansas City, Mo., 1909; served in the M. C., U. S. Army, during the World War, with the rank of captain; died suddenly, May 4, aged 42.

John Knox Brown, Brookville, Pa.; Jefferson Medical College, Philadelphia, 1884; member of the Medical Society of the State of Pennsylvania; died, April 27, aged 62, following an operation for appendicitis.

Charles Clarence Moore, Washington, Ind.; Louisville Medical College, Louisville, Ky., 1891; served in the M. C., U. S. Army, during the World War; died, May 2, aged 55, from cerebral hemorrhage.

✠ Indicates "Fellow" of the American Medical Association.

Charles E. Milligan, Winchester, Ind.; Physio-Medical College of Indiana, Indianapolis, 1890; member of the Indiana State Medical Association; died suddenly, May 5, aged 59, from heart disease.

Frederick V. Dunn, Camden, N. J.; Jefferson Medical College, Philadelphia, 1898; member of the Medical Society of the State of New Jersey; also a pharmacist; died, March 23, aged 57.

John A. King, Springfield, Ill.; Eclectic Medical Institute, Cincinnati, 1883; died, May 1, at the St. John's Hospital, aged 68, from gangrene, following an operation for amputation of the foot.

James A. McCroskey, Davenport, Iowa; Iowa Eclectic Medical College, Des Moines, 1891; Civil War veteran; died, April 29, aged 82, at St. Luke's Hospital, from influenza.

Everett T. Almon, Mortons Gap, Ky.; Vanderbilt University Medical Department, Nashville, 1880; member of the Kentucky State Medical Association; died, March 29, aged 71.

William W. Harris, Kansas City, Mo.; University of Virginia Medical Department, Charlottesville, 1857; Confederate veteran; died, April 19, aged 88, from acute bronchitis.

Irvin O. Allen, Bath, Ind.; Louisville Medical College, Louisville, Ky., 1898; member of the Indiana State Medical Association; died, April 27, aged 56, from pneumonia.

William M. Smith, Springfield, Mo.; Rush Medical College, Chicago, 1870; member of the Missouri State Medical Association; Civil War veteran; died, April 24, aged 79.

J. Bonnar Bates, Gloversville, N. Y., Hahnemann Medical College of Philadelphia, 1898; formerly president of the Gloversville Board of Health; died, April 15, aged 50.

Allan J. McDonald ✠ Aspen, Colo.; University of Michigan Medical School, Ann Arbor, 1890; formerly physician to St. Luke's Hospital, Denver; died, April 17, aged 64.

Edward Steptoe King, Sharpesburg, N. C.; University of Maryland School of Medicine, Baltimore, 1889; died, April 11, aged 59, at Statesville, from cerebral hemorrhage.

J. Mandiville Easton, Detroit; Homeopathic Medical College of Missouri, St. Louis, 1898; member of the Michigan State Medical Society; died, February 23, aged 62.

Edwin Eugene Smith, Sioux Rapids, Iowa; Eclectic Medical Institute, Cincinnati, 1898; died suddenly from heart disease, while cranking his car, April 28, aged 48.

Dalton L. Phillips, Oak Grove, Mo.; Kansas City Medical College, Kansas City, Mo., 1897; died, April 25, aged 55, from influenza and pneumonia.

Floyd J. E. Westgate, Chicago; Wisconsin College of Physicians and Surgeons, Milwaukee, 1901; died, May 15, aged 60, from acute anemia.

George W. Mingos, St. Louis; Hahnemann Medical College and Hospital of Chicago, 1880; died, April 29, aged 76, following a long illness.

Charles A. Simmons ✠ Chicago; Northwestern University Medical School, Chicago, 1896; died, May 17, aged 48, from ulcer of the stomach.

William Pattison, Oklahoma City; Hahnemann Medical College and Hospital, Chicago, 1865; died, March 21, aged 89, from senility.

William R. Seat, Lebanon, Tenn.; University of Nashville Medical Department, 1873; died, April 29, aged 75, from influenza.

Henry Clay Newell, St. Johnsburg, Vt.; Dartmouth Medical School, Hanover, 1864; Civil War veteran; died, April 29, aged 86.

N. C. Proffitt, Kingston, Texas; Gate City Medical College, Texarkana, Texas, 1907; was found dead in bed, April 5, aged 74.

Jacob G. Nau, Carroll, Ohio; Miami Medical College, Cincinnati, 1876; died, February 21, aged 72, from pneumonia.

Alfred Henry Childs ✠ Dublin, N. H.; Medical School of Harvard University, Boston, 1901; died, April 29, aged 45.

Charles Bader, Nashville, Tenn. (licensed, Tennessee, 1891); died, April 15, aged 60, from arteriosclerosis.

Charles W. Hains, Tampa, Fla.; Homeopathic Hospital College, Cleveland, 1883; died, March 28, aged 62.

William L. Goodell, Effingham, Ill.; Rush Medical College, Chicago, 1866; died, April 28, aged 76.

J. T. Knox, Cincinnati; Medical College of Ohio, Cincinnati, 1875; died, April 26, aged 75.

Russel E. Finch, Gladwin, Mich. (licensed, Michigan, 1900); died, April 28, aged 72.

Correspondence

"IS CODEIN A HABIT-FORMING DRUG?"

To the Editor:—Dr. Watson, Baltimore, brings up the subject of the habit-forming properties of codein. This gives opportunity to express a feature relative to habit forming from drugs which may have been overlooked. Is a narcotic habit the demand for the drug, or is there a stage in which, as a result of the use of the drug, there obtains a condition in which there is an inability to endure normal functioning or even pain without the drug? Granting that there may be a demand for a drug without the necessity for it as a relief from pain, which state may be called habit, there may be a state in which the habit exists even while for months and perhaps years the subject does not use and perhaps does not know of the existence of the drug or of its having become a part of his or her life. Only this is known, that if the attack, whether it be of pain, distress or want of ability to "rest," supervenes, the same prescription, probably by the same physician, is available and that it will be used for relief.

An attack of periodic dysmenorrhea, asthma, gallstone colic, hysteria, wakefulness, and many suggestive conditions, once relieved by even such a mild opiate as codein, calls for another like prescription. And this, repeated, makes the downward path well nigh inevitable. It is not enough to say that, if the drug is omitted for periods of weeks or months or even years, the habit-forming tendency is absent. An attack of gout, once, twice or thrice relieved by the mildest opiate, even though the intervals be no less than a year, will demand not only the drug in larger doses but for longer periods throughout longer durations of the attacks. Experiences are not wanting to prove the fact that a drug may become an addiction throughout years of the prehabit use; and, if we are real servants of the people, these features should be known and used as guides with full comprehension.

It is this feature of the use of even the mildest doses, a dosage even below the minimal dram of mixtures not under the Harrison act, that we assert should be given profound consideration when we wish to place any opiate on the nonhabit-forming list. I have seen results from the administration of less than one-sixteenth grain of morphin sulphate. A corresponding dose of codein would be one-fourth grain.

Narcotic habit may be the inability to endure pain, reflexes, nervousness, excessive labor (mental or other) without the drug, as well as a demand for the drug when the subject is normally well.

It is for modern physicians to treat pain and want of rest as well as the various reflex maladies by other measures save in extreme cases, and the prolonged use of any toxic drug having habit-forming elements, even in minute doses, should be considered outside the realm of the true physician. By this I do not suggest that codein or any other drug be made more inaccessible than now obtains, for it appears that our present legislation has far from succeeded in reducing the number of addicts. When we wisely prescribe, the step will have been taken which will lead to the avoidance of abuse.

Charles Franklin Bennett, M.D., Waterloo, Iowa.

To the Editor:—I wish to commend the letter of Dr. Watson in The Journal, May 13, on codein as a habit-forming drug. As there seems to be no such thing as a codein addict, granting such rare exceptions as might make the rule valid, cannot something be done to remove this useful drug from the annoying restrictions of the Harrison Narcotic Law?

Joseph S. Lewis, M.D., Elmira, N. Y.

"THE PHYSIOLOGIC AND THERAPEUTIC ACTION OF LIGHT"

To the Editor:—In reading the editorial on light (The Journal, May 6, 1922, p. 1391), it occurred to me that there is one clinical aspect which The Journal might well emphasize; namely, that the therapeutic effect of the sun's rays is almost entirely nullified by passage through window glass. The significance and clinical application of this fact is evident.

I did not realize how little this physical phenomenon is appreciated by physicians until the other day when present at a consultation in which several of the leading consultants of this city took part. These physicians, who must be considered as exceptionally well posted, had been treating a child for weeks with heliotherapy, and were surprised to hear that the treatment must necessarily have been ineffective, and valuable time lost, in view of the fact that the windows were closed during the treatment. Evidently such is the common understanding of the technic of heliotherapy; it seems possible that even those in charge of sanatoriums may be pursuing a similar method.

Alfred F. Hess, M.D., New York.

Queries and Minor Notes

Anonymous Communications and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

EXFOLIATIVE DERMATITIS FOLLOWING MERCURIAL OINTMENT

To the Editor:—1. Would mercurial ointment, 10 per cent., applied to the body cause exfoliative dermatitis? 2. If it could, would it be possible for the patient to live thirty-seven days? R. R. W., New York.

Answer.—1. Mercurial ointment, 10 per cent., applied to the body might cause a severe exfoliative dermatitis in a susceptible person. A universal exfoliative dermatitis might follow application of the ointment that was by no means universal, even localized to comparatively small areas.

2. It would be entirely possible for the patient to live thirty-seven days with such an exfoliative dermatitis. He might get such an exfoliative dermatitis without a severe general poisoning from mercury. Such a patient might easily live thirty-seven days; in fact, in such cases of exfoliative dermatitis from mercury, in which there is not also serious systemic intoxication from mercury, the patients usually recover.

"PRESCRIPTION FOR HEMORRHOIDS"

To the Editor:—In The Journal, April 29, page 1338, in commenting on a prescription sent in by a correspondent, the ingredient "cerated resinol comp." is interpreted as "ceratum resinae compositum." This is obviously an error, as what is undoubtedly intended is "unguentum resorcinolis compositum N. F.," which is sometimes erroneously called "cerate," and which is much used in combinations of the kind described. I believe that if ceratum resinae compositum were used as is directed, the preparation would be very irritating instead of healing.

Charles H. Lawall, Philadelphia,
Dean, Philadelphia College of Pharmacy and Science.

MEANING OF CHUCHO

To the Editor:—Can you tell me the meaning of the term "chucho," used in a Buenos Aires journal to designate a symptom apparently common in biliary colic? A. Pérez Miró, M.D., Havana.

Answer.—"Chucho" is a synonym of chill. The word has been taken from the Quichua language. Chucho and malaria fever are used interchangeably from Peru to Argentina. Afterward the term was extended to any kind of chill.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALABAMA: Montgomery, July 11. Chairman, Dr. Samuel W. Welch, Montgomery.

ARIZONA: Phoenix, July 6-7. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

CALIFORNIA: San Francisco, June 26. Sec., Dr. Charles B. Pinkham, 906 Forum Bldg., Sacramento.

COLORADO: Denver, July 5. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

CONNECTICUT: Hartford, July 11-12. Sec., Reg. Bd., Dr. Robert L. Rowley, 79 Elm St., Hartford.

CONNECTICUT: New Haven, July 11. Sec., Homeo. Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

DELAWARE: Wilmington, June 20. Sec., Homeo. Bd., Dr. H. W. Howell, 824 Washington St., Wilmington.

DISTRICT OF COLUMBIA: Washington, July 11. Sec., Dr. Edgar P. Copeland, Stoneleigh Court, Washington.

FLORIDA: Tampa, June 12-13. Sec., Dr. W. M. Rowlett, Tampa.

GEORGIA: Augusta, May 31-June 2; Atlanta, June 7-9. Sec., Dr. C. T. Nolan, Marietta.

HAWAII: Honolulu, July 10. Sec., Dr. G. C. Milnor, 401 Beretania St., Honolulu.

INDIANA: Indianapolis, July 11-13. Sec., Dr. W. T. Gott, State House, Indianapolis.

IOWA: Iowa City, June 1-3. Sec., Dr. Rodney P. Fagen, Capitol Bldg., Des Moines.

KANSAS: Kansas City, June 20. Sec., Dr. Albert S. Ross, Sabetha.

LOUISIANA: New Orleans, June 8-10. Sec., Dr. Roy B. Harrison, Hibernia Bank Bldg., New Orleans.

MAINE: Augusta, July 5-6. Act. Sec., Dr. Adam P. Leighton, Jr., 192 State St., Portland.

MARYLAND: Baltimore, June 20-23. Sec., Dr. J. McP. Scott, 141 W. Washington St., Hagerstown.

MICHIGAN: Ann Arbor, June 13. Sec., Dr. Beverly D. Harison, 504 Washington Arcade, Detroit.

MINNESOTA: Minneapolis, June 6-8. Sec., Dr. Thomas S. McDavitt, 539 Lowry Bldg., St. Paul.

NATIONAL BOARD OF MEDICAL EXAMINERS. Written examination in Class A medical schools. Parts I and II, June 19-23 and Sept. 25-29. Sec., Dr. John S. Rodman, 1310 Medical Arts Bldg., Philadelphia. Applications for the June and September examinations must be sent in, respectively, by May 15 and June 1.

NEBRASKA: Lincoln, June 6-8. Sec., Mr. H. H. Antles, Lincoln.

NEW JERSEY: Trenton, June 20-21. Sec., Dr. Alexander MacAlister, State House, Trenton.

NEW MEXICO: Santa Fe, July 10-11. Sec., Dr. R. E. McBride, Las Cruces.

NORTH CAROLINA: Raleigh, June 26. Sec., Dr. Kemp P. B. Bonner, Morehead City.

NORTH DAKOTA: Grand Forks, July 4-7. Sec., Dr. G. M. Williamson, 860 Belmont Ave., Grand Forks.

OHIO: Columbus, June 6-9. Sec., Dr. H. M. Platter, Hartman Hotel Bldg., Columbus.

OKLAHOMA: Oklahoma City, July 11-12. Sec., Dr. J. M. Byrum, Shawnee.

OREGON: Portland, July 4. Sec., Dr. Urling C. Coe, 1208 Stevens Bldg., Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 11. Sec., Mr. Thomas E. Finnegan, State Capitol, Harrisburg.

RHODE ISLAND: Providence, July 6-7. Sec., Byron U. Richards, State House, Providence.

SOUTH CAROLINA: Columbia, June 27. Sec., Dr. A. Earle Boozer, 1806 Hampton St., Columbia.

TENNESSEE: Knoxville, Memphis and Nashville, June 16-17. Sec., Dr. Alfred B. De Loach, 1230 Exchange Bldg., Memphis.

TEXAS: Austin, June 20-22. Sec., Dr. T. J. Crowe, 918-919 Dallas County Bank Bldg., Dallas.

UTAH: Salt Lake City, July 5. Director, Mr. J. T. Hammond, State Capitol, Salt Lake City.

VERMONT: Burlington, June 21-23. Sec., Dr. W. Scott Nay, Underhill.

VIRGINIA: Richmond, June 20-23. Sec., Dr. J. W. Preston, 511 MacBain Bldg., Roanoke.

WASHINGTON: Olympia, July 11. Sec., Mr. William Melville, Olympia.

WEST VIRGINIA: Martinsburg, July 11. State Health Commissioner, Dr. W. T. Henshaw, Charleston.

WISCONSIN: Milwaukee, June 27-29. Sec., Dr. John M. Dodd, 220 E. Second St., Ashland.

WYOMING: Cheyenne, June 5-7. Sec., Dr. J. D. Shingle, Cheyenne.

Ohio Reciprocity Meeting

Dr. H. M. Platter, secretary, Ohio State Medical Board, reports that 24 candidates were licensed by reciprocity at the meeting held at Columbus, Jan. 3, 1922. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Chicago College of Medicine and Surgery		(1917)	Michigan
College of Physicians and Surgeons, Chicago		(1902)	Illinois
Loyola University		(1921)	Illinois
Rush Medical College		(1904), (1912), (1920), (1921)	Illinois
University of Illinois		(1920)	New York
University of Louisville		(1920)	Kentucky
University of Michigan Medical School		(1920, 2), (1921, 3)	Michigan
St. Louis University School of Medicine		(1921)	Missouri
University of Nebraska		(1916)	Nebraska
Jefferson Medical College		(1919)	Penna.
University of Pennsylvania		(1895)	Penna.
University of Pittsburgh		(1909), (1919)	Penna.
Meharry Medical College		(1919)	Kentucky
University of Texas		(1920, 2)	Texas
Medical College of Virginia		(1914)	Virginia

New Mexico January Examination

Dr. R. E. McBride, secretary, New Mexico State Board of Medical Examiners, reports that 10 candidates were licensed on diploma at the meeting held at Santa Fe, Jan. 9-10, 1922. The following colleges were represented:

College	LICENSED ON CREDENTIALS	Year Grad.	Number Licensed
Northwestern University		(1910), (1912)	2
Rush Medical College		(1918)	1
University of Michigan Medical School		(1893)	1
Dartmouth Medical School		(1899), (1901)	2
Jefferson Medical College		(1912)	1
University of Nashville		(1905)	1
Vanderbilt University		(1899)	1
University of Edinburgh		(1914)	1

Washington January Examination

Mr. William Melville, secretary, Washington Department of Licenses, reports the oral and written examination held at Olympia, Jan. 10, 1922. The examination covered 16 subjects and included 160 questions. An average of 75 per cent. was required to pass. Of the 5 candidates examined, 2 passed and 3 failed. Thirteen candidates were licensed by reciprocity. One candidate was licensed by endorsement of credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Columbia University	(1917)	78.4, (1920)	75.4
	FAILED		
Stanford University		(1917)	66.1
Rush Medical College		(1897)	57.4
Kumamota Special Medical School		(1919)*	65.4

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Bennett College of Eclectic Medicine and Surgery		(1906)	Illinois
Loyola University		(1921)	Illinois
Northwestern University	(1910) Montana,	(1911)	Idaho
University of Illinois		(1918)	N. Dakota
Drake University		(1909)	Montana
University of Kansas		(1909)	Montana
University of Louisville Medical Dept	(1911) Tennessee	(1897)	Kentucky
University of Minnesota		(1900)	Montana
Starling Medical College		(1906)	Ohio
University of Oregon		(1914)	Idaho
University of Pennsylvania		(1917)	Alabama

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
University of Pennsylvania		(1919)	N. B. M. Ex.

* Graduation not verified.

Kansas February Examination

Dr. Albert S. Ross, secretary, Kansas State Board of Medical Registration and Examination, reports the written and practical examination held at Topeka, Feb. 14-15, 1922. The examination covered 10 subjects and included 100 questions. An average of 75 per cent. was required to pass. Of the 5 candidates examined, 2 passed and 3 failed. Twenty-four candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
Creighton University		(1921)	79.4
Starling Medical College		(1878)	81.3
	FAILED		
Meharry Medical College		(1921)	61.8, 70.1
University of Nashville		(1904)	71

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Arkansas		(1916)	Arkansas
Emory University		(1918)	Georgia
Georgia College of Eclectic Medicine and Surgery		(1914)	Missouri
Hahnemann Medical College and Hosp. of Chicago		(1920)	Illinois
Northwestern University		(1920)	Oklahoma
Rush Medical College		(1921, 3)	Illinois
University of Illinois		(1920)	Wisconsin
State College of Phys. and Surgs. of Indianapolis		(1907)	Indiana
University of Louisville		(1903)	Mississippi
Tulane University		(1919)	Louisiana
Johns Hopkins University		(1910)	Maryland
University of Maryland		(1917)	Delaware
University of Michigan Medical School		(1885)	Illinois
American Medical College		(1911)	Missouri
Barnes Medical College	(1899), (1904) Missouri,	(1910)	Oklahoma
University of Nebraska		(1920), (1921)	Nebraska
Eclectic Medical Institute, Cincinnati		(1886)	Ohio
Chattanooga Medical College		(1903)	Alabama
Memphis Hospital Medical College		(1911)	Tennessee

Book Notices

Clinical Electrocardiography. By Frederick A. Willius, B.S., M.D., M.S. in Medicine. Cloth. Price, $5, net. Pp. 188, with 185 illustrations. Philadelphia: W. B. Saunders Company, 1922.

If this book is intended for the expert, it is far from meeting his needs; for much unnecessary elementary material is included, and there is little consideration of the most recent advances. One unfamiliar with the electrocardiograph will not be made to understand the principles of the instrument, how to run it, or how to interpret its results. At times the descriptions are full, at others incomplete, frequently bewildering. Most of the fragmentary discussions of physiology and pathology are out of place. The author should either assume that his reader knows these facts, or he should be more explicit and exact. Much use is made of statistics, one of the characteristics of the workers in the Mayo Clinic. These statistics might well be condensed; and a little less positiveness as to conclusions drawn from even large numbers would be the safer procedure. The author is not fortunate in his style; he is not clear. Sometimes the lack of clarity seems to be due to confused thinking. At times it depends on a clumsy use of English. The whole result is a book which, in spite of many excellent features and the evidence of faithful and conscientious work, does not satisfy. We surmise that the book is largely made up of a rearrangement of some of the author's published articles. To write a good article for the medical journal, giving the results of investigative work, and to write a textbook in which all knowledge on a given subject should be digested and presented in a simple and logical manner, are tasks of widely different character. If the author, in writing the book, had had clearly in mind the exact purpose for which he was writing; and if then he had rewritten the volume, many of these regrettable errors would have been avoided.

Le Sang in Vitro: Éosinophilie—Fibrinogenèse—Phagocytose des Hématies. Par Dr. Émile Liebreich. Paper. Price, 10 francs net. Pp. 125. Paris: Masson et Cie, 1921.

This consists of a series of morphologic and physicochemical studies, which the author has made in an attempt to show the close relationship which he believes exists between eosinophilia, on the one hand, and the process of coagulation of the blood (fibrogenesis), on the other. In this connection he has been called on to discuss the subjects of hemolysis and cytology in general, in order to explain his findings. A review of the methods adopted in this research and of the results obtained cannot be given here. Suffice it to say that Liebreich concludes that it is possible to produce, in vitro, a condition analogous to a "local eosinophilia" and to show that the substance constituting the eosinophil granulations is a crystalloid identical to that forming the so-called Charcot crystals. Further, he believes that it is by the immediate and complete crystallization of a substance, which he styles "substance α," that a cell becomes an eosinophil in the morphologic sense. The relationship of the production of eosinophilia to coagulation of the blood follows from the assumption by Liebreich that coagulation is due to the action of the substances abundantly secreted by the leukocytes after extravasation, among which substances he finds crystallizable one which is derived from fibrin and which he styles the "substance α" mentioned above. A study of this little book is recommended to those interested in the mechanism of the various processes discussed. Although the ideas which it presents may be somewhat novel, yet the work will prove interesting reading.

The Use of Death-Rates as a Measure of Hygienic Conditions. By John Brownlee, M.D., D.Sc. Paper. Price, 3 shillings, net. Pp. 80. London: His Majesty's Stationery Office, 1922.

This useful little monograph discusses the significance of death rates in general, and the methods of mathematical treatment involved in the study of death rates, calculation of life tables, and the like. The nature of the discussion may be illustrated by two brief quotations: "The mean age at which deaths from measles occur in towns is considerably lower than that in the country. As nearly every one exposed to measles develops the disease, an adequate explanation is at once suggested. The phenomenon is due to the fact that epidemics occur at shorter intervals in the towns than in the country, and in consequence there is on the average a larger susceptible population at higher ages in the latter." The similar difference in age incidence in cancer, however, has another explanation. "To compare, for instance, the death rate from cancer in town and country, between the ages of 55 and 65, is to compare sections of the population which consist of different elements, as it has been rendered probable that the inhabitants of the country are at these ages biologically about six to seven years younger than the inhabitants of the town." There are many illuminating remarks of this sort.

An Essay on the Physiology of Mind. An interpretation Based on Biological, Morphological, Physical and Chemical Considerations. By Francis X. Dercum, A.M., M.D., Ph.D., Professor of Nervous and Mental Diseases in the Jefferson Medical College. Cloth. Price, $1.75 net. Pp. 150. Philadelphia: W. B. Saunders Company, 1922.

In the first part of this essay are cited and described those reactions of the ameba and sponge which seem to show selection or choice. With the appearance of a nervous system, these reactions also are fixed, but become much more rapid —transmission is greatly improved. With the development of the synaptic nervous system, the transmission of stimuli becomes specialized and intensified. In the second part, the forms of stimuli to which protoplasm responds, and the automatic nature of responses, are discussed. This leads up to the author's theory of the ameboid movement of the dendrites—the establishing of connections between neurons. Consciousness is considered in the light of "sentiency" of the neuron. Is this any advance? There is an addendum of sixteen pages on the pathologic physiology of the mind, in which hysteria, states of delirium, dementia praecox, mania, etc., are described in relation to the author's theory. In this part, especially, ideas are expressed as determined beyond question by facts about which doubt might be expressed.

Las Psiconeurosis (Neurastenia, Histerismo, Psicastenia, Neurosis de Angustia, Etc.). Por el Doctor E. Fernández Sanz, Profesor de la Facultad de Medicina de Madrid. Paper. Price, 20 pesetas. Pp. 489. Madrid: Calpe, 1921.

This book, by a prominent Spanish neurologist, chief physician of a Madrid hospital, is divided into ten chapters; on general considerations on psychoneuroses; neurosism or nervousness; neurasthenia; hysteria; psychasthenia; defense psychoneuroses; simple affective depression (by the way, a new entity introduced by the author); combined psychoneurosis; war psychoneurosis or shell shock and treatment. An attempt is made to trace the relation of neuroses to other diseases. One of the most valuable chapters is that on shell shock, ending with a discussion of camptocormia. The author seems familiar enough with French and German literature, but references to American authors are scarce, and even those few are to rather old contributions. It is a painstaking presentation, especially in its historical phases, of a subject at present much to the fore.

Veterinary Hygiene. By R. G. Linton, M.R.C.V.S., Professor of Hygiene, Royal (Dick) Veterinary College, Edinburgh. Cloth. Price, $6. Pp. 429, with 92 illustrations. New York: William Wood & Company, 1921.

This volume is intended for the use of "veterinary students, veterinary practitioners and others concerned with the well being of animals." It is a comprehensive treatise dealing with all phases of animal hygiene. The six sections into which the book is divided include discussions on water supplies, meteorology, "sanitation" (drainage, sewerage systems and sewage disposal), ventilation, building construction, sanitary law and preventive medicine. The latter section is particularly worthy of mention. The material presented deals with disinfection, isolation and quarantine in all their phases as applied to animals. About fifty animal diseases are discussed, together with methods for their prevention. The book is well written, reasonably up to date, and a valuable addition to the subject of veterinary hygiene.

Medicolegal

Breaking of Needle and Not Advising Seeing Expert

(Benson v. Dean (N. Y.), 113 N. E. R. 125)

The Court of Appeals of New York says that, in March, 1916, the defendant, with the assistance of another physician who gave the anesthetic, and of a specialist in general surgery, operated on the plaintiff, who had been suffering from rectal trouble, for ulcers. While sewing up an incision, the specialist's needle broke. He and the defendant probed to find the part broken off, but, not locating it, left it, as the plaintiff was not taking the anesthetic well, and it was necessary to act with haste. The defendant did not tell the plaintiff, his family, or friends about the needle, but continued to treat the plaintiff, who during the time suffered intensely, until the fall of 1917. In January, 1917, the defendant burned some small ulcers with nitrate of silver. He then prescribed an irrigation treatment, which was extremely painful, and when he at times inserted his finger with a rubber covering and touched a certain spot, or the irrigating tube touched it, the plaintiff felt a severe pain. A lump finally formed in the wall of the rectum, and the defendant said there would have to be another operation. The plaintiff then ceased going to the defendant, and went to a rectal specialist, who treated him, opening an abscess at the tender spot and removing therefrom the broken needle, the result being that, after some weeks, the plaintiff was cured of all discharge and pain, and had no more trouble. The plaintiff recovered a judgment for $2,634.50 damages against the defendant. A question of proper skill and care was presented for the consideration of the jury, and the judgment would be upheld, except for errors in the instruction of the jury that were clearly prejudicial, in view of the fact that the plaintiff called no medical experts to testify as to what constituted proper treatment; wherefore the judgment was reversed, and a new trial granted.

A physician is bound only to have and to exercise competent skill in treating a patient. Ordinarily, jurors would find difficulty, without the help of medical evidence, in determining the right of a patient to recover against his physician for malpractice based on lack of scientific skill; but the results may be of such a character as to warrant the inference of want of care from the testimony of laymen, or in the light of the knowledge and experience of the jurors themselves. The localized pain in this case might have suggested to a careful physician the cause of the patient's suffering. A long continuance thereof, without relief under the ministrations of the general practitioner, might properly lead him to reveal to his patient the secret of the broken needle, and suggest recourse to a specialist in rectal disorders. The defendant did not diagnose the trouble correctly, and did not advise his patient to resort to others, of wider experience, for help. The jury might properly find that he was guilty of malpractice in this regard. The defendant's fault seems to have been the unworthy and unskilful attempt to cover up the accident, rather than the accident itself.

But it was error, under the circumstances, to instruct the jury that the mere breaking of the needle was not necessarily negligence, yet might be some evidence of negligence. Common sense suggests that the condition discovered by the rectal specialist was incompatible with successful surgery and medical treatment. But when the evidence of the defendant's surgeons came into the case, with a reasonable explanation showing what may happen when the proper degree of care and skill is actually exercised, the possible inference of negligence from the breaking of the needle alone was driven out, and the jury should have been so instructed. The rule of *res ipsa loquitur* (the matter speaks for itself) put on the defendant the burden of going on with the case; but, in the absence of medical evidence to the contrary, it must be assumed on this appeal that the breaking of the needle was not due to negligence. Another instruction was too broad which stated that if, under the circumstances, a reasonably careful, skilful general practitioner such as the defendant would have suggested the calling into consultation of a rectal specialist, the defendant was negligent for failing to do so. The evidence did not suggest that such a specialist should have been called in for the operation. But a jury might say that, at some time in the subsequent treatment, the defendant should have sought, or at least suggested, counsel when he failed to afford the plaintiff any substantial relief from the extreme of agony which he suffered.

Testimony of Physicians in Action Against Dentist

(Patterson et ux. v. Howe (Ore.), 202 Pac. R. 225)

The Supreme Court of Oregon says that the defendant, who was sued for alleged malpractice in the extraction of a tooth and the subsequent treatment of the wound, was a dentist, and in the practice of his profession the law imposed on him, in common with physicians and surgeons in the practice of their profession, the duty of exercising such reasonable and ordinary care, skill, and diligence as other members of their respective professions in the same general neighborhood and in the same general line of business ordinarily have and exercise in a like case. It was not error to permit the jury to inspect the wound in the plaintiff's jaw resulting from the extraction of the tooth. In personal injury cases, it is the usual practice to permit the jury to inspect the injured part, and it was proper for the jury to see the condition of the plaintiff's jaw, and for a physician to explain its condition to the jury. This testimony did not prove negligence, and was not offered for that purpose, but was competent and proper for the consideration of the jury, in connection with other testimony and circumstances of the case on the question of damages.

Nor was error committed in the introduction of the testimony of the physician of complaints made by the plaintiff about her eyes, the complaints having been made during the time he was treating her for the extraction of the tooth. The complaints made by a patient to a physician as to pain and suffering assist the physician in his diagnosis of the case. Moreover, the testimony of a physician as to the condition of the optic nerve of the plaintiff, as found by him on examination one year subsequently to the extraction of the tooth, was admissible in the question of damages, there being testimony tending to connect this condition with the injuries resulting from the manner in which the tooth had been extracted. The weight of this testimony was for the jury; and whether the condition testified to by the physician was the result of negligent extraction of the tooth was a question for the jury.

Neither was there error in a refusal of the court to permit a physician, who was a witness for the defendant, to answer the question: "Would an ordinary medical practitioner that has never studied dentistry or had any experience in dentistry be qualified, in your judgment, to testify as an expert on dental operations?" The question related to the qualifications of another physician, and not to the qualifications of the witness himself, and objection to the question was properly sustained. The question as to whether another physician, a witness in the case, was qualified to testify, was one of law for the court to decide.

But it was error, requiring a reversal of the judgment for damages obtained, to permit the plaintiff's family physician to be asked, and to answer the question: "In your judgment as a physician and surgeon, was the operation performed by Dr. Howe on the patient a skilful dental operation (just give your best judgment as to whether it was skilful and effective, or unskilful and ineffective)." "I consider that operation was misdirected . . . not directed to the right spot. . . . I would be obliged to say that in this case I could not call it skilful." Permitting such questions to be propounded to the physician, and the answers to be given by him, was clearly an invasion of the province of the jury; and this testimony was particularly damaging to the defendant because of the fact that the witness, who was the plaintiff's family physician, was present and saw the operation performed, and was testifying to a fact which had come under his own personal observation. His testimony was bound to have greater weight with the jury than if he had been expressing an opinion in answer to a hypothetic question.

Society Proceedings

COMING MEETINGS

American Psychiatric Association, Quebec, Canada, June 6-9. Dr. C. Floyd Haviland, Drawer 18, Capitol Station, Albany, N. Y.
Florida Medical Association, Havana, Cuba, June 30. Dr. Graham E. Henson, Jacksonville, Secretary.
Idaho State Medical Association, Wallace, July 10-11. Dr. E. E. Laubaugh, Overland Bldg., Boise, Secretary.
Maine Medical Association, Portland, June 27-28. Dr. B. L. Bryant, 265 Hammond St., Bangor, Secretary.
Massachusetts Medical Society, Boston, June 13-14. Dr. W. L. Burrage, 42 Eliot St., Jamaica Plain, Boston, Secretary.
Michigan State Medical Society, Flint, June 7-9. Dr. F. C. Warnshuis, 410 Powers Bldg., Grand Rapids, Secretary.
Montana, Medical Association of, Great Falls, July 12-13. Dr. E. G. Balsam, 222 Hart-Albin Bldg., Billings, Secretary.
New Jersey, Medical Society of, Spring Lake, June 20-22. Dr. William J. Chandler, South Orange, Secretary.
North Dakota State Medical Association, Jamestown, June 1-2. Dr. H. J. Rowe, Lisbon, Secretary.
Rhode Island Medical Society, Providence, June 1. Dr. I. W. Leech, 111 Broad St., Providence, Secretary.
Southern Minnesota Medical Association, Rochester, Minn., June 19-20. Dr. Aaron F. Schmidt, Physicians and Surgeons Bldg., Minneapolis, Secretary.
Wyoming State Medical Society, Sheridan, June 20-21. Dr. Earl Whedon, Sheridan, Secretary.

AMERICAN GYNECOLOGICAL SOCIETY

Forty-Seventh Annual Meeting, held at Washington, D. C., May 1-3, 1922

The President, DR. GEORGE GRAY WARD, JR., in the Chair

What Is the Relation of Hypertension to Fibroid Disease of the Uterus?

DR. JOHN OSBORN POLAK, Brooklyn: No effect on blood pressure can be attributed to the presence of fibroids in young women. Patients with myoma who have high pressure are usually over 40, or near the climacteric, or have renal or cardiovascular disease. Bleeding in fibroid seems to be secondary and has no direct effect on blood pressure; but, when suddenly checked by operation or radium, the pressure is raised temporarily. Removel of the uterus and ovaries in women of 40 or over raises the pressure for a varying period; but unless there is some intercurrent disease, the preoperative pressure rapidly returns. Conservation of the ovaries means a less tumultuous operative climacteric. The pressure and nervous phenomena are more pronounced after radium than after operation.

Life History of Ovarian Hematomas of Endometrial Type

DR. JOHN A. SAMPSON, Albany, N. Y.: These hematomas arise from tubules of endometrial type in the ovary which react to menstruation. If situated near the surface of the ovary, perforation occurs while they are small. As a result of hemorrhage (menstruation) and perforation, the epithelial lining may be cast off entirely, and the hematoma (hemorrhagic cyst) may be destroyed. If situated in the deeper portions of the ovary, the hematoma may reach a larger size (occasionally several centimeters in diameter) before perforation occurs. As the menstrual blood is unable to escape prior to perforation, many interesting changes occur in the cyst wall because of menstruation and the attempted repair following it. The origin of these tubules is an interesting problem whether they arise from developmentally misplaced müllerian tissue or from the surface epithelium of the ovary, or are acquired during adult life from the implantation of tubal or uterine epithelium escaping from the tube. The data I have obtained suggest the latter as one source of these tubules.

Ovarian Transplantation

DR. FRANKLIN H. MARTIN, Chicago: Clinically, there is little to encourage one to believe that transplantation of ovaries as practiced up to the present time has more than speculative value as a surgical procedure. There is some evidence that autotransplants are of some value in deferring the symptoms of the menopause and delaying the cessation of menstruation. It is difficult, however, not to attribute some of this evidence to suggestive therapeutics or to unattached ovarian tissue left in situ. There is practically no convincing evidence that homotransplants have been successful in the human female. There is no evidence that a heterotransplant has been successful when the human female has been the recipient. There is, however, encouraging evidence in all of this endeavor to lead one to hope that the subject will be pursued experimentally, especially for the purpose of devising a rational and simple technic.

Pelvic Tuberculosis: End-Results of Operative Treatment

DR. REUBEN PETERSON, Ann Arbor, Mich.: Since pelvic tuberculosis in women is usually a secondary infection, it is of the first importance to find and estimate the extent of the primary focus before deciding for or against operation for the pelvic lesion. Operation should be postponed or avoided altogether when the pulmonary lesion is extensive. Otherwise the percentage of primary and secondary deaths will be high, since the operative procedures may augment the pulmonary lesions. The end-results of the operative treatment of pelvic tuberculosis are, on the whole, favorable, since about 75 per cent. of the patients should be alive and in good health after a considerable period of years. Whenever the condition of the patient warrants, radical removal of the pelvic organs is indicated, since more than one portion of the genital tract is usually involved in the tuberculous process, and because the best end-results follow such radical removal. Unless too extensive, tuberculosis of the peritoneum will be cured if the other pelvic tuberculous lesions are removed.

Extent of Renal Lesion in Toxemias of Pregnancy

DRS. ALFRED B. SPALDING, MARION C. SHEVKY and THOMAS ADDIS, San Francisco: The renal lesion in pregnancy toxemia is important not before, but after delivery. The danger lies not in the extent of the lesion during the acute toxemia, but in the fact that it may fail to heal, and may become a continuing and self-perpetuating disease which, either alone or with the help of a complicating arterial disease, may ultimately lead to the death of the patient in uremia.

Hydatidiform Mole

DR. EDWARD A. SCHUMANN, Philadelphia: There is a necessity for distinction between early cases and those developing in late pregnancy. While the latter form is undoubtedly quite rare, hydatid is probably the most common of all diseases of the ovum in the early months of gestation. The impossibility of determining either by curet or uterine endoscope to what degree the mole has penetrated the uterine muscle should be remembered. The treatment suggested is abdominal hysterotomy, with hysterectomy if indicated by direct inspection of the interior of the uterus.

Bovine Genital Infections of Interest to the Medical Profession

DR. W. L. WILLIAMS, Ithaca, N. Y.: Cattle of all ages and both sexes suffer extensively from genital infections which imperil reproduction and affect adversely the general health. Adult cattle afford the best opportunity for the clinical study of genital functions and diseases. The internal genitalia are freely palpable by rectum. The fetus may also be palpated and much learned of its behavior. There are genital infections of cattle occupying debatable ground regarding transmissibility to man which might repay careful study. Probably the most interesting field at present lies in the analogies which may be drawn, having possible value in determining certain fundamental principles in sexual functions and genital diseases, such as the transmission of infections by the male during coitus, which, although not regarded as specifically venereal in character, may have a profound peril for fertilization and may imperil the genital health of the female, and the health of a resulting fetus or of the new-born. The influences of sexual excesses on the intensification of genital infections of cattle may afford valuable suggestions regarding sex hygiene. Available data on the influence of the health of new-born calves on the fertility of the animal when breeding

age is attained may offer valuable suggestions in the problem of the hygiene of infants.

Point in Technic of Vaginal Fixation of Uterus

DR. THOMAS S. CULLEN, Baltimore: In the Watkins and other similar operations for prolapses of the uterus, as soon as the bladder has been pushed up and the peritoneum opened, the anterior surface of the uterus is grasped and pulled forward. Sometimes the uterine musculature is friable and tears readily, not only causing considerable bleeding but also leaving a raw and macerated surface. I have been using a simple procedure that obviates this, and at the same time renders the traction on the uterus easy. As soon as the peritoneum is opened, three figure of eight sutures of chromic formalized or silverized catgut are placed in the anterior wall of the uterus, and tied about 1.5 cm. apart. The end of each suture is rethreaded, grasps the peritoneum of the edge of the wound, and then pierces the margin of the cut vaginal mucosa at the proper point. When these sutures have been introduced and are ready for tying, the cervix is amputated, and the sutures are then tied. The operation is completed in the usual manner.

Action of Ergot and Solution of Hypophysis on Uterus

DRS. CHARLES C. HASKELL and M. PIERCE RUCKER, Richmond, Va.: Pituitary solution affects the uterus of cats and dogs more powerfully than ergot does. Instead of being devoid of the tetanizing action manifested by ergot, pituitary solution seems more prone to produce either a tetanus or an increase in tone which is similar in regard to its effect on intra-uterine pressure. Pituitary solution, instead of being safer than ergot when employed in the early stages of labor, is actually more dangerous. The action of ergot and hypophysis solution on the uterus are the same if large enough doses of ergot are used. The action of both drugs varies greatly with different individuals.

Pregnancy in the Tuberculous

DRS. CHARLES C. NORRIS and DOUGLAS P. MURPHY, Philadelphia: The combination of pregnancy and pulmonary tuberculosis is a common one. Pulmonary tuberculosis exerts little or no influence against conception or on the course of pregnancy, and except in the advanced stages, little or no influence toward causing abortion, miscarriage or premature labor. From 20 to 30 per cent. of cases of mild, quiescent pulmonary tuberculosis, and from 70 to 90 per cent. of more advanced cases exhibit exacerbations during pregnancy or the puerperium. Marriage is worse for the tuberculous woman than for the tuberculous man, owing to the dangers incident to pregnancy. Unless the pulmonary lesions have been quiescent for a moderately prolonged period, tuberculous women should not marry. Tuberculous women should not become pregnant unless the disease is in the first stage, and has been quiescent for a minimum period of two years. Moderately extensive lesions, especially laryngeal improvement, loss of weight, fever, hemorrhage, sweats, lack of vigor, and inability to obtain proper treatment, are ill omens. Prior to the fifth month of pregnancy, the uterus should be emptied if the disease manifests any evidence of becoming active. Curettage during the first six or eight weeks, and in the latter cases vaginal hysterotomy are the preferable methods. From 65 to 70 per cent. of suitable cases will be benefited by this treatment, provided it is employed as soon as acute symptoms arise and that proper after-treatment is instituted. Late intervention has given less satisfactory results. Sterilization is not justifiable as a routine procedure. After the fifth month of pregnancy, it is generally advisable to treat these patients expectantly. Labor should be made as easy as possible. Induction of premature labor two weeks before term may be advisable. Rarely, if ever, should these patients be allowed to go beyond term. Infants should not be nursed by tuberculous mothers, and should be especially guarded from infection. The patients should be kept under close observation and should be examined by a competent internist at regular and frequent intervals. In the great majority of cases the tuberculosis precedes the pregnancy. Even in those cases in which the symptoms are first observed during pregnancy, infection has generally occurred prior to conception, and an exacerbation during pregnancy has directed attention to the pulmonary condition.

Test of Labor in Relation to Cesarean Section

DRS. RUDOLPH W. HOLMES and ALLISON L. BURDICK, Chicago: The adoption of modern surgical principles and the abstinence from vaginal examinations have reduced the risks of a cesarean section to the present minimal point. The eventual possibility of a section should be clearly and definitely determined in pregnancy. Every step in the subsequent conduct of labor should be subservient. An absolute pelvic deformity demands that the woman should undergo section before labor sets in—at a set hour. Conversely, unless there is imperative necessity, the woman with relative disproportion should be given an adequate test of labor. If labor is unduly prolonged after the rupture of the membranes, a stormy convalescence is probable in 10 or more per cent., and the lethal outcome for the occasional woman is certain to occur. A cesarean section performed before labor spells almost certain success in skilled hands, with a minimum of physical distress. Labor increases the physical distress and may jeopardize the convalescence. Above all things, prolonged labor, with prolonged rupture of the membranes, with vaginal examinations, or futile attempts at delivery from below spell disaster. The sum total of discomfort, distress, malaise—every bodily ill of cesarean section—is as great as or greater than the inconveniences and pain of labor. Sections should be done only when there are clear indications.

Further Experience with Pituitary Extract in Induction of Labor

DR. BENJAMIN P. WATSON, Toronto: Pituitary extract should be used in the course of labor for but one purpose: to stimulate uterine contraction when this is markedly inadequate, and when there is no obstruction to the passage of the child. To give pituitary extract to a patient with a rigid cervix or a small pelvis, large head, malposition of the head or rigid pelvic floor is to court disaster. Rupture of the uterus and fetal death are bound to occur. When given to induce labor, the initial dose is 0.5 c.c. If there is any idiosyncrasy on the part of the patient to the drug, it is revealed at once. Administration can then be stopped. Our experience shows that if the first dose produces no bad effects, subsequent doses will be borne equally well, as the drug has no cumulative effect. If contractions can be kept up long enough, if necessary by further doses, to start dilatation of the cervix and separation of the lower pole of membranes, the labor will thereafter go on naturally.

Uterus After Cesarean Section

DR. EDWARD P. DAVIS, Philadelphia: Much attention has been recently called to the danger of rupture of the uterine scar after cesarean section. Statistics show that when catgut is used to close the uterine muscle, there is danger of rupture in subsequent pregnancy in about 4 per cent. of cases. When silk is used, the danger of rupture is less, while it is thought that the ideal suture material would be silkworm gut. A suture material placed in the uterus will disappear through the action of cellular elements, unless it be impervious and resisting. Hence, if the uteri are examined when silk has been used in closing and infection has not developed, no trace of the silk may be found. While the choice of suture material is important, in the classic operation the efficient and accurate closure of the uterine muscle is indispensable. Cesarean section by incision through the lower uterine segment is said to be less dangerous for subsequent pregnancy.

Intra-Uterine Rupture of Velamentous Umbilical Cord

DR. GEORGE W. KOSMAK, New York: The presence of the so-called velamentous insertion of the cord must always be regarded as a source of danger to the child. In this anomaly the umbilical vessels become separated at varying distances from the placenta, and take a course between the amnion and chorion before reaching their placental terminals. This means that when labor begins a rupture of the membranes

occurs in the immediate vicinity of these isolated vessels, especially if they happen to be located over the internal os; the umbilical artery or the veins, as the case may be, are torn through with the loss of the fetus from hemorrhage. On the advance of the presenting part, it may compress these vessels and produce fetal asphyxia. Whether these babies are less well developed or whether premature labor may occur as the result of this anomaly, the outcome is doubtful. Velamentous cord insertion is frequently associated with placenta praevia. Irregular bleeding at the end of the first stage of labor should also lead one to suspect this condition when a lateral placenta was believed to be present and none is found on careful examination, especially when the presenting part is well engaged. As for the methods of treatment, it is radical to suggest a cesarean section in order to obviate the long delay incident to complete dilatation of the cervix; but when the accident occurs in a primipara with a severe hemorrhage, as in my case, due to another cause, cesarean section would be the only method of choice. It is claimed that velamentous insertion of the cord is always associated with placental anomalies, infarcts, multiple fetuses, twins and triplets. The diagnosis of the condition is possible only if the pulsating vessels can be felt within the circle of the dilating cervix over the bulging bag of waters. In such cases it may be possible to rupture the membranes between the vessels after dilatation is complete and then deliver the child as rapidly as possible; otherwise pressure will produce asphyxia. When the cervix is not yet fully dilated, a Vorhees or other soft rubber bag may be inserted carefully so as not to produce a premature rupture of the membranes, but fetal asphyxia is readily possible in such cases. In primiparas, however, such as in the case reported, with long, rigid cervix, even if a diagnosis had been made, such slow methods would have been of no avail. When the cord is inserted at the upper pole of the uterus, as in my case, a diagnosis by palpation is, of course, impossible.

Is Interference Justifiable After Twenty-Four Hours of Labor When No Other Indication Is Present?

DR. ALFRED C. BECK, Brooklyn: All but thirteen of seventy-nine long labors occurring among 1,138 general service cases were delivered spontaneously. Forceps were used in six either because of a marked change in the fetal heart rate or a prolonged second stage. Two breech extractions were done for the same reasons, and five labors were terminated by cesarean section. The sections were employed in cases of relative disproportion that failed to engage after a thorough test of labor. Three stillbirths and three infant deaths on the first, fourth and fifth days, respectively, gave an infant mortality of 7.6 per cent. One mother died on the third day after a cesarean section. Should we have resorted to the use of manual dilation or incision of the cervix and forceps delivery in these instances of prolonged labor? From the fact that in many of these cases the head was not engaged after twenty-four or even thirty hours of labor, I doubt very much whether the end-results would have been as good had these procedures been used. Should we have used bags or vaginal packs in our dry labor cases? As there were 138 cases in which the membranes ruptured early, this type of interference would have been required that number of times. Should we have induced labor prematurely in our cases of pelvic contractions? I believe that all but a few of the patients that show relative disproportion will deliver spontaneously if they are permitted to have a thorough test of labor. Therefore, I feel that a larger number of living infants will be born and that they will have a better chance to survive if we allow these patients to go to term and have a test of labor. I admit, however, that this routine occasionally subjects the mother to the risk of a cesarean section. Should we have induced labor because of the fear of a large child? As seventy-four of the infants in the series weighed more than 4,000 gm. (9 pounds), seventy-four inductions for this indication would have been necessary. Should more cesarean sections have been done? The large number of spontaneous deliveries that occurred after a test of labor, together with our low infant and maternal mortality, proved that we were not negligent in the matter of cesarean section.

AMERICAN SOCIETY FOR CLINICAL INVESTIGATION

Annual Meeting, held at Washington, D. C., May 1, 1922

The President, DR. R. T. WOODYATT, Chicago, in the Chair

Deductive Scientific Thinking

DR. R. T. WOODYATT, Chicago: In numbers engaged in medical research, in richness of material equipment, in multiplication of material methods, and in form of research produced per annum, this country equals or exceeds any other country of the present or past. The quality of our product, however, must be compared with that of the masters. Bichat, Johannes Mueller, Harvey, Pasteur and Bernard had no such numbers or methods as ours, yet their work was greater. They were expert in the method of using the brain, in the technic of creative thinking rather than the technic of the blood sugar percentage or hydrogen ion concentration in the body fluid. It behooves us now to give more serious consideration to the study of scientific philosophy on the two methods of research known as inductive and deductive. All things considered, the latter has yielded the greater results, and has been the most employed by the masters. With notable exceptions, the great mass of American investigation today is of the inductive type. Let us study more deeply into history and philosophy and stimulate more interest in the prior idea, the hypothesis, the technic of deductive scientific thinking.

Static and Kinetic Components of Efferent Nervous System: Their Function and Symptomatology

DR. J. RAMSAY HUNT, New York: The efferent nervous system (cerebrospinal and vegetative) consists of two components, physiologically and anatomically distinct: a static system regulating posture, and a kinetic system controlling movement itself. In muscle, the kinetic system innervates the anisotropic contractile mechanism, and the static system the isotropic sarcoplasm. The function of the sarcostyles is movement. The function of sarcoplasm is postural tonus, posture following movement like a shadow. The efferent system consists of three great physiologic divisions: (*a*) The segmental nervous system, with components of motility representing reflex movement and reflex posture; (*b*) the corpus striatum, its subordinate spinal systems and cortical connections controlling movements of the automatic-associated type, and (*c*) the rolandic area of the cerebral cortex and its corticospinal system, which is concerned with isolated synergic types of movement. The latter two divisions comprise the suprasegmental nervous system. The essential suprasegmental structure for the control of postural function is the cerebellum. The peripheral nerves and voluntary muscle represent another system. Each of these systems presents anatomic evidences of a kinetic and a static mechanism.

The static and kinetic components of the vegetative nervous system for the control of unstriped muscle are represented in the sympathetic and parasympathetic systems, respectively. These two systems control the posture function and primitive motility of the blood vessels, glands and viscera. Unstriped muscle, like striated muscle, is composed of fibrillae and sarcoplasm. The fibrillae pass from one cell to another, forming a contractile network, and subserve the function of primitive movement. The sarcoplasm is concerned with primitive posture. Posture is the dominant function of involuntary muscle which coincides with the predominance of sarcoplasm. In voluntary muscles, movement is the dominant function, and there is a corresponding differentiation of the contractile mechanism. In both voluntary and involuntary muscles, various types of muscle fiber may be recognized, representing transitions from lower to higher forms.

Contractile function is subserved by two afferent systems, conveying, respectively, sensations of movement and of posture. Muscle sensibility (myesthesia) therefore consists of two components: kinesthesia, a sense of movement, and statesthesia, a sense of posture. These unite with impulses of similar character from the bones, joints, fasciae and tendons.

A lesion of the kinetic system causes a disorder of movement, and of the static system a disorder of tonus or of posture. This principle holds for both the splanchnic and somatic systems. The kinetic mechanism of the somatic system may give rise to various types of convulsive manifestation; also chorea, athetosis, tremor, etc. Related to the static mechanism are the sudden postural relaxations of epilepsy, myotonia, asynergia, dysmetria and intention tremor. In the psychic sphere, evidences of a dual representation are manifest in convulsions and in catatonia. A similar interpretation may also be given to active and to passive perseveration. In the vegetative nervous system, disorders of movement may be related to the kinetic component; e. g., tachycardia, gastric hypermotility and bronchial asthma. Related to the static system are disorders of postural tone; e. g., insufficiency and atony of the sphincters and hypotonic states of the vascular system.

DISCUSSION

DR. STANLEY COBB, Boston: Dr. Woodyatt has spoken of the taking of data from one field of science for application in another. This is necessary in the formation of theories; but in accepting such data from another field, we must be critical. For example, Dr. Hunt's explanation of muscle tone depends on accepting as a fact the sympathetic innervation of skeletal muscle. This rests on the work of three men: (1) Boeke, an anatomist, who demonstrated sympathetic nerve endings in skeletal muscle. This has been corroborated by other workers. (2) DeBoer, a physiologist in Amsterdam, whose experiments indicated that section of the sympathetic nerves decreased muscle tone. These experiments have been repeated by two workers who were unable to substantiate DeBoer's findings. (3) Langelaan, whose paper is largely a theoretical analysis of the work of others, and whose conclusions have not been corroborated. The theory of sympathetic innervation of skeletal muscle is an attractive one, because it explains so many now inexplicable phenomena of muscle physiology. We have no right, however, to build theories until the basic physiologic facts on which they stand have been substantiated. I believe that the relationship of muscle tone to sympathetic innervation is still unproved.

The Chemistry of Pseudochylous Ascites

DRS. CAMPBELL P. HOWARD and R. B. GIBSON, Iowa City: Milky effusions into the serous cavities are classified into three types: (1) the true chylous due to the presence of chyle; (2) the chyliform or fatty, containing emulsified fat as the result of a fatty degeneration of cellular elements, and (3) pseudochylous fluid in which the opacity is not attributed to a fatty emulsion. In the latter the opacity is due to the presence of lecithoprotein, the lecithin being associated with the globulin fraction. The causes for pseudochylous ascites in order of frequency are (*a*) malignancy, (*b*) nephritis, (*c*) cirrhosis of the liver, and (*d*) tuberculosis.

The most striking of the chemical "determining points" for pseudochylous ascites are: (1) the high content in lecithin; (2) the low fatty acid figure and the uniformity of the fatty acid content after allowing for the lecithin fatty acid, and (3) the low cholesterol figures. True chylous fluids contain cholesterol in quite appreciable amounts, probably because of absorption of food and bile cholesterol from the intestine into the lacteals. Calcium in excess in protein combination is apparently not responsible for any of the opacity of the pseudochylous fluid, being present in all of the specimens in but little less concentration than in normal blood plasma. Paracentesis in a case of primary carcinoma of the gallbladder with metastases to the peritoneum, liver, pleurae and lungs yielded a milky yellow fluid which immediately suggested a true chylous ascites from invasion or at least obstruction to the lacteal system. The fluid did not rapidly reaccumulate, and the chemical investigation revealed its true nature. At necropsy, three weeks later, while there was again a moderate amount of similar fluid in the peritoneum, neither distention of the lacteals nor destruction of the receptaculum chyli was visible. The fluid obtained at necropsy resembled the first fluid, but revealed, in addition, a high nonprotein nitrogen content, due to the premortem anuria. For comparison, three more peritoneal fluids were examined, one from a case of cardiac decompensation due to rheumatic endocarditis of the mitral and aortic valves as proved postmortem, and one from another definite case of cardiac decompensation due to an adherent pericardium and an extreme myocarditis as revealed at necropsy, and the other from a case of suspected Pick's disease, in which the patient left the hospital before the absolute diagnosis could be made. Lastly, a specimen of fluid aspirated supposedly from the ventricles for the purpose of a ventriculography in a young man with signs of a cerebral tumor was also analyzed. The fact that the cerebrospinal fluid was essentially normal indicated an intraventricular cyst or a degenerating brain tumor, replaced by a gradually concentrating transudate. We would recommend the more frequent complete chemical investigation of all transudates or exudates because of the valuable diagnostic and, indeed, prognostic assistance sometimes obtained.

DISCUSSION

DR. ALBERT A. EPSTEIN, New York: In studying the chemistry of chylous and chyliform fluids, it is necessary to take into consideration not only the amount of fats and lipoids present, but also the state in which they are present in such fluids. Many fluids of a chyliform character are encountered in which the appearance is due not to the presence of fats or lipoids, but to a disturbed relationship in the proportions of albumin and globulin. Albumin enhances the solubility of globulin, and when the latter protein is present in excess, or when the amount of albumin is too small, the globulin particles remain incompletely dissolved, and give to the fluid a milky appearance.

DR. EMANUEL LIBMAN, New York: The appearance present in cases of so-called pseudochylous ascites can be produced by an infection occurring in a previously established ascites. When such a fluid is infected by a streptococcus or a pneumococcus, the first result seems to be the formation of an albuminous precipitate due to the growth of the organism. Later, if the infection continues, a real peritonitis ensues. Such cases are rarely seen in the early stage. Dr. Flexner noted the occurrence of such a fluid in the paper dealing with peritonitis, which he published many years ago. In that communication he cited an observation made by Sacquépée.

Extrahepatic Formation of Bile Pigment; Factors Affecting Elimination of Bile Pigments

DRS. GEORGE R. MINOT and CHESTER M. JONES, Boston: The intimate association of the liver with the formation of bilirubin during the normal processes of hemoglobin metabolism is universally accepted. The work of Whipple and Hooper on animals, however, has shown that bile pigment can be formed from hemoglobin without the intervention of the liver. That such can occur in man in an isolated circulation is shown from the following experimental studies in a case of paroxysmal hemoglobinuria. Intravascular hemolysis was produced in the patient by immersing the arm in ice water. A tourniquet was kept on the upper arm throughout the experiment at a pressure greater than systolic blood pressure. Examination of several specimens of blood taken from the arm during a period of thirty-three minutes after the production of hemolysis revealed first a small amount, and later a large amount of hemoglobin in the plasma. There then occurred a reduction of the hemoglobin, coincident with which there appeared an excess of yellow pigment giving the Gmelin test for bilirubin. Similar results, obtained on repetition, are offered as proof for the extrahepatic formation of bile pigment in man. Another series of observations was made in another case of paroxysmal hemoglobinuria, in which the products of hemolysis following chilling were allowed to enter the general circulation. Enough hemolysis was produced to cause a drop of about 850,000 red cells per cubic millimeter. These experiments revealed a definite sequence of events in the metabolism of hemoglobin. In the plasma the liberated hemoglobin was gradually replaced by increasing amounts of bilirubin, which subsequently returned to normal. As the bilirubin of the plasma began to decrease, that of the duodenal contents began to increase, reaching its height in about two and one-half hours. At this time the urobilinogen and urobilin in the duodenal contents began to rise, reaching their peak about one hour later, and returning to normal in about twenty hours. Such findings certainly suggest that the urobilinogen and urobilin were formed in

the liver or its ducts, rather than in the intestine and then reabsorbed, as the time element involved was too short to allow for bacterial action in the lower intestine, and subsequent reabsorption.

Pigment estimations were made in the cases referred to on a series of fractions of duodenal contents collected before and after introduction of magnesium sulphate. Observations in twenty cases of liver disease disclosed that alterations in liver function are frequently accompanied by a marked increase of the bile pigments. In a certain proportion of these cases there was also a marked alteration in the normal ratio between the individual pigments. Fourteen cases of biliary stasis and gallbladder disease showed definite increases in the pigments in the duodenal contents. These increases were probably due for the most part to the concentrating ability of the gallbladder. A separate series of twenty cases of pernicious anemia showed marked increases in bile pigment elimination. By comparison of the bile pigment values obtained after hemolysis in paroxysmal hemoglobinuria with those noted in pernicious anemia, it would seem that a second factor, in addition to increased blood destruction, is necessary in order to explain the high levels reached in the latter disease. Otherwise, complete exsanguination would result in a short time were blood destruction to proceed in pernicious anemia at a rate comparable to that produced in the cases of paroxysmal hemoglobinuria. This second factor, by analogy with the results obtained in the cases of liver disease, may be an alteration in liver function. Alterations in bile pigment excretion can also be attributed to changes in diet.

Value of Therapeutic Test in Excluding Malaria in Suspected Cases

DR. C. C. BASS, New Orleans: The value of the therapeutic test in excluding malaria in suspected cases depends on the certainty with which clinical symptoms are controlled by quinin. If it uniformly causes clinical symptoms to disappear, it can be depended on to exclude malaria from the diagnosis in all suspected cases. There is no method of treatment more effective in controlling the symptoms or curing the infection than what is known as the standard treatment recommended by the National Malaria Committee. The standard treatment is 10 grains of quinin sulphate three times daily for a period of three or four days to relieve the acute symptoms, to be followed by 10 grains every night before retiring for a period of eight weeks to cure the infection.

During the last six years I have given special attention to the question of relief of clinical symptoms by the first three or four days of the treatment with 30 grains of quinin daily, in connection with malaria control investigations with which I have had the good fortunte to be connected. During that period about 20,000 malaria-infected persons were under treatment, most of them, however, only for the cure of the infection. Not a single case has been found in which fever or chills and fever due to malaria continued more than three days under as much as 30 grains of quinin daily. In view of my experience, in which I have not been able to find a single case in which proper quinin treatment failed to control the clinical symptoms promptly, I am led to the conclusion that such cases must be very rare. Therefore, the therapeutic test should be given a value of practically 100 per cent. in excluding malaria in suspected cases.

Metabolism of Inorganic Base During Fasting

DRS. J. L. GAMBLE, S. G. ROSS and F. F. TISDALL, Baltimore: To test the accuracy of the regulation of inorganic base elimination during fasting, the total inorganic base concentration in the blood serum, i. e., the sum of the concentrations of sodium, potassium, calcium and magnesium, was measured. This is found to be stationary at its usual value. Bicarbonate, however, is much reduced during fasting. This is shown to be a consequence of the concentration of ketone acids in the plasma. Ingestion of sucrose following fasting removes the concentration of abnormal acids and restores bicarbonate. A decrease in chlorin concentration durng fasting, contributing considerably to the bicarbonate concentration, is also observed. From the fact of the stationary total base, the inference is drawn that the purpose of the factors regulating inorganic base excretion is to maintain a constant level of total base in the serum, which apparently will not be altered in behalf of a diminished bicarbonate.

In order to demonstrate the separate regulation of the excretion of sodium and chlorin in accordance with the needs of the concentrations of sodium and chlorin in the blood plasma, carbohydrate and sodium chlorid were given following a period of fasting, and sodium and chlorin measured in the urine. It was assumed that with rise in the level of carbohydrate metabolism there would be increase in the volume of body water and, in consequence, need for the retention of sodium and chlorin in order to sustain their normal concentrations. The concentration of sodium being the larger, there should be a greater need for the retention of sodium than of chlorin. In agreement with this premise, several times as much chlorin as sodium was found in the urine. This result permits the inference that some of the sodium taken in as sodium chlorid was used to sustain the bicarbonate concentration. In other words, under circumstances this neutral salt may contribute to the alkali reserve, the uncovering of sodium for this purpose being accomplished by the excretion of ammonium chlorid.

Diabetic Lipoidemia

DRS. PHIL L. MARSH and L. H. NEWBURGH, Ann Arbor, Mich.: In the literature on diabetes there is a tendency to assume a relationship between the amount of fat in the food and the percentage of lipoids in the blood. Bloor has recently suggested that there is lacking a pancreatic hormone which is necessary for the proper removal of the fat from the blood. Bloor continues by conceiving that the factor of overwork must be taken into consideration in examining into the cause of diabetic lipemia, and that the patient has a fat tolerance which can be raised or lowered as the ingested fat is restricted or increased. We have noted the effect on the lipoidemia of diabetic patients of the high fat, low protein, low carbohydrate diets described by Newburgh and Marsh. Since in these diets the great majority of the calories are derived from fat, and since in each case the caloric requirement of the patient has been satisfied, the daily fat intake is relatively high (about 200 gm.). If there were a defect in the metabolism of fat similar to that in the metabolism of carbohydrate, a hyperlipoidemia must result. This should be particularly true in those subjects who demonstrated their tendency to hyperlipoidemia by a gross increase over normal in the blood lipoids.

In one patient whose total lipoids were between 8 and 9 per cent. of the blood, the lipoidemia steadily decreased during two months of observation until it was about 2 per cent. at discharge; the greater part of the fall occurred during the few days immediately following the establishment of caloric and nitrogen balance. In three other patients whose initial lipemia was between 2 and 3.5 per cent., the total blood lipoids fell to approximately normal level and remained there during the period of observation, which was nearly nine months in one case and fourteen months in the other. These four patients were young adults. A young woman on whom no initial observation was made showed a normal lipoidemia during a second period of treatment four months after she was started on a high fat diet. A 3 year old boy showed a fall to normal of a slightly elevated lipoidemia. In six other patients there was no rise in the blood lipoids, which were approximately normal, during the period of treatment, in spite of the fact that each received in the neighborhood of 4 gm. of fat per kilogram of body weight daily. There was no increase in the lipoid content of the blood during the periods of observation, and, of much greater significance, in the patients in whom a hyperlipoidemia existed when they first came under observation, the total fat fell to approximately normal levels. This is very strong evidence that the prevalent assumption which postulates that diabetic hyperlipoidemia is dependent for its existence on the excessive ingestion of fat is unwarranted. The explanation of this phenomenon must be sought in some other unusual feature of the diabetic state.

DISCUSSION

DR. E. P. JOSLIN, Boston: Did the patients who took 5 gm. of fat per kilogram of body weight, or 45 calories, gain body weight?

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

April, 1922, 163, No. 601

Nonoperative Treatment of Chronic Empyema. J. H. Gibbon, Philadelphia.—p. 469.
*Gastro-Intestinal Infection in Relation to Infection of Liver and Bile Passages. C. G. Stockton, Buffalo.—p. 485.
*Calcification of Pituitary with Hypopituitarism: Symptomatic Treatment. G. E. Pfahler and R. L. Pitfield, Philadelphia.—p. 491.
*Actinomycosis of Tongue. G. B. New and F. A. Figi, Rochester, Minn. —p. 507.
*Pain in Threatened and Real Gangrene of Extremities: Its Relief. B. M. Bernheim, Baltimore.—p. 517.
Organization of Pneumonic Exudates. R. Floyd, New York.—p. 527.
Curability of Gastric Ulcer: Report of Fourteen Cases of Healed Lesser Curvature Ulcers. J. S. Diamond, New York.—p. 548.
A Micro-Method for Determination of Sugar in Small Amounts of Blood. H. O. Pollock and W. S. McEllroy, Pittsburgh.—p. 571.
Rôle of Concentrated Cereal-Milk Mixtures in Early Infancy. G. W. Graves, New York.—p. 576.
*Splenic and Hepatic Enlargement in Endocarditis: Two Hundred and Eighty-Six Necropsy Findings. J. H. Arnett, Philadelphia.—p. 590.

Gastro-Intestinal Infection in Relation to Liver Infections.—Stockton believes that his case illustrates the growing belief that jaundice is more often the result of an infective or toxic hepatitis, with the infection descending, than an ascending infection; that is to say, the infection reaches the liver through the portal system, and the obstruction to the outflowing bile occurs in and about the lobules and possibly at the beginning biliary passages. This does not controvert the well known fact that jaundice often arises from obstruction at the common duct or the hepatic duct, and this obstruction may, of course, be inflammatory. Except in the instance of calculi causing actual obstruction at the junction of the cystic and common ducts or in the ampulla, jaundice is probably rather rare from simple angiocholitis of the ascending variety. The disease in Stockton's case was primarily a gastritis and later an intense duodenitis; a blocking of the papilla resulted from swelling of the duodenal mucosa which caused jaundice. Meantime, the infection had been carried to the liver through the portal system, and thus there was set up a hepatitis with a descending inflammation. The case also is an illustration of possibly beneficial results from a novel method of treatment—transfusion of the normal duodenal content of a healthy donor into the functionless duodenum of a patient, also the value of intestinal perfusion. A remarkable effect was obtained by stimulating the flow of bile from a badly diseased liver by direct irrigation of the gallbladder with a magnesium sulphate solution. Stockton regards this as a novel measure of treatment, and compares it with the method of stimulating the outflow of bile as described by Lyon.

Calcification of Pituitary with Hypopituitarism.—Pfahler and Pitfield report nine cases of seriously disordered function of the pituitary with marked calcification of its tissues mostly with hypopituitary symptoms.

Actinomycosis of Tongue.—To the thirty-five cases of primary actinomycosis of the tongue recorded in the literature New and Figi add three. The condition is more commonly found in farmers or in persons whose rural life exposes them to infection. One of the authors' patients mentioned a habit of chewing bits of grass while he played golf.

Treatment for Pain in Gangrene of Extremities.—In these cases Bernheim usually has the patient give the affected part an alternate hot and cold plunge by means of two pails of water. One of these pails is filled with iced water while the other is filled with water almost at the boiling-point. The patient plunges his foot first into the cold water, leaves it there a second or two, and then without drying it at all, plunges it immediately into the hot water. After it has been in that a few seconds he puts it back into the cold water and from there again into the hot water, continuing this alternate cold and hot plunge for about five minutes, finally ending up with the hot water plunge. By this means the blood vessels alternately contract and dilate, and in many cases the process is quite obvious to the eye by the blanching and reddening of the skin of the affected part. The process is finished off with the vessels in dilation. The patient is put through these exercises three times a day, if he can stand it. In the case of most patients who have been unable to stand it there has been some degree of ulceration either around the base of the nails or at some place on the foot. At the conclusion of the baths the foot is dried off thoroughly and the whole foot and leg are well oiled with any kind of oil, such as olive oil or cacao butter, particular attention being given the parts around each nail and between the toes. The patient is then instructed to lie down and keep the foot warm for at least an hour. It is not sufficient to carry out this exercise merely with the water in shallow pails; it is far better to have a deep bucket so that the whole leg can be put in the water almost up to the knee. In between these baths the patient uses an electric vibrator over the entire leg and foot. A course of Ringer's solution by means of the duodenal tube has caused a curious alleviation of pain in many cases. Many patients object to taking it by means of the duodenal tube, so they are permitted to drink it, but the solution has a definite salty taste and it is impossible to take it in great quantities or over a long period of time by mouth.

Spleen and Liver Enlargement in Endocarditis.—Two hundred and eighty-six necropsy reports are analyzed by Arnett to ascertain the frequency and degree of splenic and hepatic enlargement in cases of endocarditis. The spleen was often found greatly enlarged in patients who had died of acute or recurring endocarditis, and this enlargement occurred independently of liver enlargement. Splenic enlargement was also frequently found in cases with noncardiac streptococcic infection and about half as frequently in chronic cardiac disease. Although it is impossible to arrive at any final conclusion as to the cause of splenic enlargement in acute and recurring endocarditis, the evidence points toward infection rather than back pressure or infarction as being the factor of most importance in causing the spleen to enlarge. Splenic enlargement is an important diagnostic sign in acute and recurring endocarditis, and is frequently overlooked in the physical examination.

American Journal of Obstetrics and Gynecology, St. Louis

April, 1922, 3, No. 4

*Normal Variations in Type of Female Pelvis: Obstetric Significance. J. T. Williams, Boston.—p. 345.
*Exophthalmic Goiter and Pregnancy. I. Bram, Philadelphia.—p. 352.
Distribution and Function of Uterine Ciliated Epithelium in Pig; Certain Clinical Hypotheses. F. F. Snyder and G. W. Corner, Baltimore.—p. 358.
Relation Between Toxemia of Pregnancy and Uterine Sepsis From Study of 400 Toxemic Cases. F. S. Kellogg, Boston.—p. 366.
Lithopedion Formation in Extrauterine Fetal Masses. R. D'Aunoy and E. L. King, New Orleans.—p. 377.
Premature Separation of Normally Implanted Placenta. A. C. Williamson, Pittsburgh.—p. 385.
Gynecologic Operations Under Local Anesthesia. R. E. Farr, Minneapolis.—p. 400.
*Ureteral Obstruction. Failure to Recognize Ureteral Obstruction a Frequent Cause of Unnecessary Operations. K. I. Sanes, Pittsburgh. —p. 405.
*Indications for and Dangers in Use of Spinal Anesthesia in Obstetrics, Gynecology and Abdominal Surgery. R. R. Huggins, Pittsburgh.—p. 412.
Oxygen in Peritoneal Cavity; Report of Cases. W. S. Bainbridge, New York.—p. 419.
Rhythmic Electric Waves in Gynecology. G. M. Massey, Philadelphia. —p. 426.

Normal Variations in Female Pelvis.—Impressed in the course of routine antepartum examinations by the large number of contracted outlets found in women with broad hips and large external measurements, Williams found after a time that he could predict almost with certainty that when the external measurements exceeded 30 cm. in the intercristal diameter, and 20 cm. in the anteroposterior diameter, the transverse diameter of the outlet would be more or less contracted and the pubic arch angular. On the other hand, in women whose measurements which did not exceed 20 cm., 25 cm. and 28 cm. for the external conjugate, the interspinous and intercristal diameters, respectively, a wide arch and an ample transverse diameter of the outlet could be looked for. These observations led Williams to believe that there are

two distinct types of female pelvis both of which must be regarded as normal, the "feminine" and the "muscular" types. The "feminine" type presents external measurements closely approximating the 20, 25, 28 cm. of the textbooks with thin bones and a wide outlet. The "muscular" type is characterized by large external measurements, but a narrow outlet and an angular pubic arch. The bones are, as a rule, heavier. The os pubis is thicker and more horizontal, and the pelvic inclination is increased. The muscles and fasciae are firmer than in the first type. Although both types must be considered as normal, the "feminine" type is much the more favorable for labor. In the "muscular" type premature rupture of the membranes occurs in nearly 40 per cent. and posterior positions of the occiput are more common. In spite of the large external measurements, cesarean section was necessary in a greater percentage of pelves of the muscular type. Both the normal mechanism of labor and operative interference are unfavorably affected by the horizontal os pubic and the greater pelvic inclination in this type.

Exophthalmic Goiter and Pregnancy.—In females with exophthalmic goiter, Bram says, the sexual instinct and emotions must be suspected as partially or wholly an etiologic factor until the contrary can reasonably be proved. In both sexes, in the presence of exophthalmic goiter sterility is common, but not the rule. In the female, though the libido may be normal or acute, there frequently occurs a degree of vaginismus and a dread of coitus. While in an important percentage of cases pregnancy seems to have been the exciting cause of the affection, in general pregnancy helps rather than hinders improvement when the disease already exists. On the other hand, the occurrence of pregnancy in a markedly advanced case of the disease is usually detrimental, as the vital organs are unable to cope with the increased demands made on them. Miscarriage is apt to result within the first few months. Occasionally, an infant born of a mother suffering with this affection may present congenital goiter with or without evidences of hypothyroidism or of cretinism. Lactation is decidedly harmful to these women. When repeated pregnancies occur, there is a tendency on the part of the thyroid toward hyposecretion. Such patients are especially prone to present a combination of hypothyroidism and hyperthyroidism simultaneously, with a predominance of the former. Also, among such patients an occasional "burned out" thyroid is observed, in which the condition, evidently tending toward spontaneous recovery, is seen to overlap this point and soon takes on the clinical picture of a varying degree of myxedema.

Ureteral Obstruction.—Attention is directed by Sanes to the frequent failures to diagnose ureteral obstruction, the reasons being the anatomic relationships of the ureter and the great variety of obstructive factors. Good histories and careful physical examinations can be relied on to give the indications for investigation of the urinary tract. The diagnostic value of cystoscopy, ureteral catheterization and ureteropyelograms in the cases of ureteral obstruction are discussed and cases are cited.

Spinal Anesthesia in Gynecologic Operations.—The freedom from nausea, abdominal distention, postoperative weakness and other disturbances so common with other forms of anesthesia led Huggins to recommend spinal anesthesia as an improved method when given under proper supervision and with full knowledge of its danger. Spinal anesthesia is the best anesthetic known today for certain operations in the lower abdomen. It should be given only after careful study of the patient. If it is not properly employed by one possessing sufficient skill, it may have a large mortality. The operator must exercise considerable judgment as to which anesthetic should be employed in a given case.

American Journal of Roentgenology, New York

March, 1922, **9**, No. 3

*Veils in Right Hypochondrium and Their Differentiation From Other Organic Lesions and Spasm. L. G. Cole, New York.—p. 137.
Minimum Erythemia Dose with Diagnostic Voltages. A. W. Erskine, Cedar Rapids, Ia.—p. 148.
*Possibilities of Roentgen-Ray Treatment in Cancer of Pancreas. G. E. Richards, Toronto, Can.—p. 150.
Relation of Temperature Changes to Roentgen-Ray Skin Reactions. C. L. Martin and G. T. Caldwell, Dallas, Tex.—p. 152.
Value of Interstitial Radiation. D. Quick, New York.—p. 161.
Roentgen Rays of Short Wave-Lengths and Their Measurement. W. Duane, Cambridge, Mass.—p. 167.
Auto-Electronic Discharge and Its Application to Construction of New Form of Roentgen-Ray Tube. J. E. Lilienfeld, Leipsic, Ger.—p. 172.
Stereofluoroscopy. J. D. Morgan, Montreal, Can.—p. 180.
New Technic for Vertical Examination of Sphenoids and Ethmoids, with Demonstration of Special Sphenoid Film Holder. G. E. Pfahler, Philadelphia.—p. 183.
Dental Roentgenography in Light of Clinical and Pathologic Findings. A. S. Wolfe, Washington, D. C.—p. 186.

Veils in Right Hypochondrium.—The roentgen-ray findings which Cole believes to be characteristic of a veil in the right hypochondrium are: the cap and perhaps the extreme pyloric end of the stomach are partly constricted or compressed, and fail to fill to their normal dimensions, particularly on the anterior superior surface. The left superior surface of the cap has a thin feathered-out appearance, whereas the right side of the cap has a clear-cut, definite, well-defined line. If the veil also involves the extreme pyloric end of the lesser curvature of the stomach, this region has a puckered appearance, somewhat simulating the finding observed in cases of prepyloric folds. The pyloric sphincter is clear cut and well defined if the veil involves only the cap. But if it also involves the stomach, the pyloric sphincter, particularly on the lesser curvature surface of the lumen, is irregular and often thickened by comparison with the sphincter on the opposite side of the lumen. The deformity is more marked with the patient in the erect or prone posture, and may be absent with the patient lying on the right side. The line or torsion runs downward and to the right from the gastrohepatic ligament (mesogastrium) toward the gallbladder, the under surface of the liver, or the hepatic flexure. These veils are rarely if ever obstructive to the pylorus, and if gastric retention occurs, it is probably functional rather than organic. If the veil fails to extend as far up as the cap, or stomach, it may then involve only the anterior surface of the descending duodenum, causing that to be adherent to the under surface of the liver, gallbladder, or hepatic flexure. There may be an angulation, rarely amounting to a partial obstruction, involving the midportion of the descending duodenum. These veils, either by direct contraction or by tortion with the patient in certain postures, cause a deformity of the hollow viscera in the right hypochondrium, particularly the cap. This results in roentgen findings which so closely simulate either postpyloric ulcers or gallbladder adhesions, that it probably accounts for most of the erroneous roentgen diagnoses of postpyloric ulcers, especially in those cases in which a sufficiently extensive series of plates has been made and carefully studied by a competent observer.

Roentgenotherapy of Cancer of Pancreas.—Richards asserts that it is possible favorably to influence the growth of pancreatic cancer, and this is sufficient to justify the intensive irradiation of every case as early as the diagnosis can be established. It appears probable that adenocarcinoma of the pancreas is more susceptible to irradiation than some other forms of adenocarcinoma.

Annals of Surgery, Philadelphia

April, 1922, **75**, No. 4

Drainage. J. A. Blake, New York.—p. 385.
War Injuries Coming to Subsequent Operation. W. M. Jones, St. Louis.—p. 389.
*Treatment of Surgical Tuberculosis with Carbon Arc Lamp. P. K. Sauer, New York.—p. 400.
Tuberculous Abscesses of Chest Wall: Nine Cases. H. Auchincloss, New York.—p. 404.
*Case of Postoperative Tetany with Implantation of Human Parathyroids. A. E. Brown, Colac, Victoria, Australia.—p. 418.
Lethal Factors in Acute Ileus. F. T. Van Beuren, Jr., New York.—p. 423.
*Cause of Death in High Intestinal Obstruction. J. W. Ellis.—p. 429.
*Present Status of Epiplopexy. J. H. Gibbon and J. B. Flick, Philadelphia.—p. 449.
*Bleeding Ulcer of Duodenum Associated with Cholecystitis. Report of Four Cases. E. S. Judd, Rochester, Minn.—p. 459.
Traumatic and Industrial Hernia. W. B. Coley, New York.—p. 467.
*Nontubercular Kidney Infections. R. P. Sullivan, New York.—p. 478.
Diagnosis of Shadowless Renal Calculi; With Especial Reference to Those of Cystin Composition. R. C. Graves, Boston.—p. 487.

Intra-Abdominal Hemorrhage from Ruptured Corpus Luteum. E. C. Moore, Los Angeles.—p. 492.
Premature Ossification After Separation of Lower Radial Epiphysis. M. K. Smith, New York.—p. 501.

Carbon Arc Lamp Treatment of Surgical Tuberculosis.—Sauer considers the carbon arc lamp to be an effective agent in curing cases of surgical tuberculosis. It is as effective as the natural sunlight and has the advantages of convenience and independence of the weather. It is just as effective, if not more so, than the roentgen rays without the attendant dangers. It is far more effective than the quartz mercury vapor lamp. He has used the lamp in seven cases of tuberculosis, including bone, glandular, peritoneal and kidney cases. Four patients were cured; two were improved and one, a gland case, was unimproved. From forty to 160 treatments were given.

Parathyroid Implantation for Postoperative Tetany.—Brown reports a case in which tetany resulted after the removal of the right lobe of the thyroid. Attacks continued with varying frequency for eight years—but were absent during pregnancy. The attacks consisted of cramps in the limbs and body with severe pains around the heart. The hands assumed the typical tetany or "obstetric" position. The elbows were strongly semiflexed, the ankles plantarflexed and the toes pointed. The pulse in the attacks was from 100 to 110. The patient was afflicted with severe terror. Chvostek's facial nerve sign was present. Administration of dried thyroid and implantation of three human parathyroids under the aponeurosis of the external oblique muscle failed to give relief. Bullock's parathyroid emulsified in glycerin injected intramuscularly also failed. Implantation of three human parathyroids obtained from the body of a boy who died from the results of an accident, within forty minutes of his death, inside the sheath of the left sternomastoid muscle gave relief for about four months. Then the woman became ill with diarrhea. She was cyanosed and very terrified. The hands and arms were clenched, but not in the tetany position—the toes pointed and the calves stiff. Nothing abnormal was discovered. She was very hysterical, shrieked with terror if the room door was shut, globus hystericus was present intermittently, and other varying symptoms, including blindness. She was absolutely unable to sleep and narcotics had no effect whatever. Considerable edema developed in the back and legs. She was found dead in bed about a month later.

Cause of Death in High Intestinal Obstruction.—The research reported on by Ellis is based on the extremely close similarity existing between the clinical pictures of acute pancreatitis, ileus and acute fulminating peritonitis. He believes that the toxin that is the cause of death in the one case is identical with, or closely allied chemically to, that which produces death in the others, irrespective of its initial source. It probably arises within the cells of the mucosa of the duodenum in ileus, and takes origin in the cells of the pancreas in acute pancreatitis. It is inert in the cells in the normal organ, and when it is excreted into the lumen, under normal conditions, is immediately combined with the content of the intestine, and is innocuous. In obstruction the condition is changed, and instead of being thrown out into the lumen of the intestine, the major portion is forced into the lymph, and thence into the general circulation; the portion thus excreted is intensely toxic, judging from the toxicity of the relatively small amount that is present in the content of the bowel. Experiments are reported on in which this toxin was used. Since erepsin fails to exert any action on the toxin, and since the toxin shows no lymphagogic action whatever, it is concluded that the toxin is neither a proteose nor a heretoproteose. The clinical advantage of gastric lavage in these cases is explained by the removal of the toxic content and the favoring thereby of an increased excretion into the lumen of the intestine. In addition to this treatment, Ellis says should be added the introduction of large amounts of saline, both intravenously and by the rectum, to further the excretion of the toxin both by the bowel and by the kidneys. Finding the toxin in the intestinal content after the removal of the suprarenals suggests that clinically epinephrin should be added to the saline infusion in sufficient amount so that a continuous supply of epinephrin is being furnished.

Epiplopexy.—The operative mortality in the ten cases reported on by Gibbon and Flick was 20 per cent. One patient died of pneumonia forty-eight hours after operation and the second died four days after operation from peritonitis. In the last six cases there has been but one death with which the operation might be associated. This patient died two months after operation; she was a syphilitic. One patient was relieved of all symptoms for three years, then died of apoplexy. One patient was relieved of symptoms for eighteen months and able to work, then had several profuse gastric hemorrhages, which were controlled under rest, and the patient was discharged from the hospital in good condition. No ascites; died four years after operation; cause of death unknown. One patient is alive eighteen months after operation and in good health; has gained 25 pounds in weight. There is no evidence of a reaccumulation of fluid. One patient is alive six months after operation and able to do light work. There has been no reaccumulation of fluid since discharge from hospital. One patient, a syphilitic, is alive five years after operation with no relief of symptoms.

Bleeding Ulcer of Duodenum Associated with Cholecystitis.—Four patients with bleeding duodenal ulcers in whom the pathologic condition was more extensive in the gallbladder than in the duodenum have been operated on by Judd within the past year. In each case the duodenal ulcer could be demonstrated easily and in one case it was of long standing, as evidenced by the amount of scar tissue. A very severe grade of cholecystitis was also present in all of these cases. The gallbladders of the four patients were very much alike, being rather larger than normal, with thick, edematous walls. They were not compressible, because of the inflammatory deposits in the tissues. They contained stones and infected bile in each instance. These cases of cholecystitis and duodenal ulcer were also very similar clinically. The chief symptom in each case was gastro-intestinal hemorrhage, usually very severe, occurring at intervals of a few months. All four patients complained of mild dyspepsia which was easily controlled by regulation of the diet and proper management. The massive hemorrhages occurred when least expected, often when the patients had been symptom-free for a long time. None of the four had ever had severe pain. It was impossible to elicit a history of gallstone colic or any other symptom suggestive of a disease of the gallbladder. The findings in these four patients impressed Judd with the importance of infections in the gallblader as a possible etiologic factor in cases of gastro-intestinal bleeding. A definite lesion in the duodenum was found in every instance and undoubtedly was the point from which bleeding occurred. The hemorrhages were of the massive type, such as usually occur from the pancreatico-duodenal artery, and yet in each case it was quite definitely shown that none of the larger vessels could be involved in the ulcerations.

Nontuberculous Kidney Infections.—A sudden attack of pain in kidney region associated with fever in a patient known to have a suppurative process elsewhere in the body, Sullivan says, should excite suspicion of metastatic kidney infection. The source of the infection may not only be a general disease, but a distant and apparently insignificant focus may be responsible. Metastatic hematogenous infection of the kidney, perinephritic or paranephritic abscess, is not always easily recognized, and may be confused with intra-abdominal infections. The treatment of perinephritic or paranephritic abscess is early drainage. When the suppuration involves the kidney parenchyma, or when the process is an acute fulminating one, nephrectomy is indicated.

Boston Medical and Surgical Journal

April 20, 1922, **186**, No. 16

*Opportunities of General Practitioner in Medical Investigation. R. I. Lee, Cambridge.—p. 523.
Case of Recurrent Bilateral Pneumothorax. J. B. Hawes, Boston.—p. 528.
Present Conception of Colon Pyelitis as Regards Treatment. E. G. Crabtree, Boston.—p. 530.
Progress in Laryngology. H. P. Mosher and G. Barry, Boston.—p. 532.

Opportunities of General Practitioner in Medical Investigation.—The progress in medicine does not, Lee says, concern

itself exclusively, or even mainly, with the limited investigation of the ultility of some delicate laboratory procedure in diagnosis, prognosis and treatment. The field is far larger than that. Modern hospitals are tending to develop into diagnosis clinics. After the diagnosis is made, the treatment is outlined and usually expediency, partly from the financial point of view, but largely from other points of view, make it desirable that the treatment should be in the patient's home, that is to say, properly under the charge of the general practitioner. Outside of special therapeutic procedures, such as operations, etc., treatment will be largely in the hands of the general practitioner. Successful treatment in the case of many diseases must be applied over a considerable period of time. It is only the general practitioner with his continuous surveys, who can record the actual results and make proper deductions therefrom. It seems to Lee that in the line of treatment there are tremendous opportunities for investigation on the part of the general practitioner. He takes the single illustration of the amount of exercise which patients with cardiac disease should take. Obviously the hospitalized patient of this type is out of the question. If the hospitalized patient recovers sufficiently to go home and resume ordinary life to a greater or less extent, he comes under the charge of the practitioner, and joins an already large group with which any practitioner is always familiar. These cases will be under the observation of a general practitioner for a period of many years. They offer opportunities for carefully recorded data which would be of inestimable value to the medical profession. There is, perhaps, a tendency among medical men to assume that the dictum of rest in patients with cardiac disease has been somewhat overemphasized, but there are at the present time no sufficient data upon which to justify that assumption. The general practitioners could contribute tremendously important data on that particular point. Each practitioner will find readily available ample material so that he may undertake the kind of investigation which his interest and his material indicate. In the study of early disease, and in the treatment of chronic disease, the general practitioner has a vantage position in which he has unexcelled opportunities. By his investigations, the medical practitioner, like the laboratory worker, will only very rarely, indeed, make important scientific discoveries, but both the practitioner and the laboratory worker will prodigiously benefit themselves by their investigations. The benefit is not solely selfish, certainly not in the case of the general practitioner, because the community will be the ultimate gainer.

Journal of Nervous and Mental Disease, New York

March, 1922, **55**, No. 3

*Solitary Tubercle of Spinal Cord. W. Thalhimer, Milwaukee, and G. B. Hassin, Chicago.—p. 161.
*Juvenile Paresis Associated with Hypopituitarism and Sympathicotonic Trend. T. Raphael and S. Gregg, Kalamazoo, Mich.—p. 194.
Progressive Cerebral Hemiplegia: Its Pathogenesis and Differential Diagnosis. A. Gordon, Philadelphia.—p. 200.

Symptoms of Solitary Tubercle of Spinal Cord.—In the case reported by Thalhimer and Hassin the spinal cord symptoms and signs were those of tumor of the spinal cord. Had not an ostearthritis of the spine preexisted, which suggested the possibility of pressure on the cord from this process, the preoperative diagnosis should have been "tumor of the spinal cord." Therefore, solitary tubercle of the cord must be considered in all cases with symptoms of primary tumor of the cord. A complete Froin's syndrome was present in the spinal fluid, i. e., clear, yellow fluid which clotted spontaneously. This is considered by some observers, in the absence of history of trauma, to be pathognomonic of a spinal cord tumor. There was evidence to show that the spinal cord was not only compressed, but the spinal canal was completely blocked at the level of the tubercle. Repeated lumbar punctures yielded only from 1 to 4 c.c. of fluid, and pressure on the jugulars caused no further flow. At the first operation performed, a laminectomy, a probe was passed between the dura and cord beyond the region in which the tubercle was found at the second operation. Nevertheless, in spite of the functional block in the spinal canal, the probe met no obstruction. Also, it was impossible to detect the presence of the enlargement caused by the tubercle. The lesson to be learned is always to be sure in operating in cases manifesting cord level lesions to perform the laminectomy high enough, and never to trust the evidence obtained by passing a probe in the spinal canal beyond the exposed area of cord. At the second operation the tubercle at the level of the second dorsal vertebra was easily enucleated. There was so much loss of spinal cord substance, however, that there was no return of function, and the patient died from exhaustion and other causes secondary to his complete paraplegia. It is believed that when the tubercle is solitary and not multiple, and if there is not an extensive generalized tuberculosis, operative removal is indicated in spite of the localized tuberculous meningitis situated about the tubercle. The pathology of tubercle of the cord is discussed by the authors and abstracts are given of cases of solitary tubercle of the spinal cord, collected from the literature.

Juvenile Paresis Associated with Hypopituitarism.—Report is made by Raphael and Gregg of a case evidencing, in significant relief, the association of a syphilitic process (juvenile paresis) with deficient hypophysial functioning and sympathicotonic trend, affording indication of the importance of systematic vegetative and endocrine analysis in acquired and congenital syphilis, particularly where associated with nervous system involvement.

Public Health Journal, Toronto

April, 1922, **13**, No. 4

Health Propaganda. J. T. Phair, Toronto.—p. 145.
Some Aspects of Mental Hygiene of Childhood. H. C. Cole.—p. 149.
How Life Begins. E. L. Moore.—p. 158.
Life Problems of Social Hygiene. F. E. Brown.—p. 161.
Sex Education (continued from previous issue).—p. 174.

South Carolina Medical Association Journal, Greenville

April, 1922, **18**, No. 4

Physician's Obligation to Patient. H. L. Shaw, Sumter.—p. 82.
Infectious Jaundice, or Weil's Disease, Also Spirochetal Jaundice: Report of Four Cases. C. S. Breeding, Anderson.—p. 85.
Restoration of Function in Gynecologic Surgery. W. D. James, Hamlet.—p. 87.
Some Abuses of Cathartics. B. H. Baggott, Columbia.—p. 91.
Vesico-Vaginal Fistula; with Case Report of Successful Operation on Fistula of Eight Years' Standing, Patient Having Had Four Unsuccessful Operations. C. J. Lemmon, Sumter.—p. 94.
Types, Causes, Prevention and Treatment of Diarrheas in Infancy. W. P. Cornell, Columbia.—p. 95.
Splenomyelogenous Leukemia. G. Bare, Starr.—p. 100.

West Virginia Medical Journal, Huntington

March, 1922, **16**, No. 9

Co-Incident Calculus and Diverticulum of Bladder. J. L. Crenshaw and C. B. R. Crompton, Rochester, Minn.—p. 335.
Physiology of Pylorus. E. J. Thomas, Morgantown, W. Va.—p. 341.
Ideal Obstetrician. G. C. Mosher, Kansas City, Mo.—p. 348.
"Teething" Baby. C. D. Holland, Fairmont, W. Va.—p. 357.

Wisconsin Medical Journal, Milwaukee

April, 1922, **20**, No. 11

Some Aspects of Local Anesthesia Problem. R. E. Farr.—p. 547.
*Two Common Types of Cardiac Arrhythmia. M. F. Rogers, Milwaukee.—p. 551.
*Surgery of Infantile Paralysis. F. J. Gaenslen, Milwaukee.—p. 555.
Early Wisconsin Medical History. H. P. Greeley, Madison.—p. 558.

Cardiac Arrhythmia.—Auricular fibrillation Rogers says probably is responsible for from 60 to 70 per cent. of arrhythmic decompensated hearts. This condition of affairs arises because (1) the physician either fails to recognize the type of arrhythmia or (2) more generally, he fails to give digitalis in adequate dosage. Rogers believes that a good standard tincture is far superior to any proprietary preparation.

Surgery of Infantile Paralysis.—Gaenslen emphasizes the fact that the problem of the functional reconstruction of the paralytic cripple involves not only a thorough knowledge of anatomy, but also a full appreciation of the mechanics of weight bearing and muscular action. Every case demands careful observation and study so that if surgery is decided on a careful operative plan is worked out.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

March, 1922, **16**, No. 1

Undulant Fever in Goat in Malta. T. Zammit.—p. 1.
Undulant Fever in Naval, Military and Civilian Populations of Malta. J. W. W. Stephens.—p. 11.
*Alastrim; Kaffir Milk Pox. L. M. Moody.—p. 21.
New Species of Phlebotomus from Trinidad. R. Newstead.—p. 47.
New Tsetse-Fly from South Cameroons. R. Newstead and A. M. Evans.—p. 51.
Australian Cestodes. P. A. Maplestone.—p. 55.
Notes on Australian Cestodes. P. A. Maplestone and T. Southwell.—p. 61.
Contribution to Knowledge of Bionomics of Sand-Flies. J. Waterston.—p. 69.
Human Intestinal Protozoa in Amazonas. C. J. Young.—p. 93.
Parasite Resembling Plasmodium Falciparum in a Chimpanzee. B. Blacklock and S. Adler.—p. 99.

Alastrim: Kaffir Milkpox.—Moody presents the results of his analysis of 2,912 cases of alastrim which passed through the Isolation Hospital at Kingston, Jamaica. About 6,000 cases have occurred throughout the island. The incubation period varied from ten to fourteen days. The onset of the disease is sudden. There is a rise of temperature accompanied by headache and backache, and occasionally pains in the limbs and vomiting. The characteristic eruption appeared with about equal frequency on the third or fourth day after the onset of the symptoms. The rash does not appear in crops, but it is often two or three days before the full extent of the eruption is obvious. The order in which it affects the various parts of the body is similar to that of true smallpox. After its appearance it gradually passes through the vesicular stage until it reaches maturity at about the sixth or seventh day. There is no tense shotty feeling until the rash is nearly matured. Of the complications and sequels, bronchopneumonia is the most serious. Laryngitis and aphonia occur in the severer cases, but disappear as the rash disappears. Conjunctivitis and impetigo have also been noted. Boils are the most frequent sequel. Prognosis is good, except in the newly born and in the hemorrhagic type of rash. Among the 2,912 cases analyzed there have been only thirteen deaths. It is Moody's opinion that alastrim and vaccinia belong to the same group but present slight individual differences, the one disease affording almost complete immunity to the other.

Indian Medical Gazette, Calcutta

March, 1922, **57**, No. 3

Rhinosporidium Kinealyi of Conjunctiva Cured by Tartarated Antimony (Tartar Emetic); Case in Which Lachrymal Sac was Affected by This Sporozoon. R. E. Wright.—p. 81.
Rhinosporidium Kinealyi of Conjunctiva. R. E. Wright.—p. 82.
Blackwater Fever as it Occurs in Duars and Its Treatment. S. C. Roy.—p. 83.
*Laboratory Records from Mesopotamia. F. P. Mackie and C. Trasler.—p. 85.
Indian Cantharides. B. N. Dutt.—p. 92.
Removal of Tonsils and Adenoids. G. T. Birdwood.—p. 93.
*Unusual Postoperative Phenomenon in Thyroidectomy. A. K. Lauddie.—p. 95.
Epidemic of So-Called Nagasore at Unao. S. N. Mathur.—p. 96.
Case of Traumatic Myositis Ossificans. S. L. Bhatia.—p. 96.
Case of Radical Cure of Irreducible Scrotal Hernia. F. J. W. Porter.—p. 98.
Cyst Over Sternum. A. Bayley de Castro.—p. 99.
*Case of Acute Inflammation of Gallbladder in Which Gallstones Were Found Fractured. F. J. W. Porter.—p. 99.
Case of Pluriglandular Insufficiency. A. D. Harvey.—p. 100.
Case of Leukoderma. N. Ghosh.—p. 100.
Case of Typhus-Like Fever (Rocky Mountain Fever?) Occurring at Murree. H. C. Keates.—p. 101.

Results of Examination of Stools.—Out of 1,121 stools, whether containing blood and mucus or otherwise and including those from all stages of disease in British or Indians, 20.3 per cent. yielded *B. dysenteriae* (Shiga), 15.8 per cent. contained *B. dysenteriae* (Flexner), and 3.3 per cent. undifferentiated strains. Of the total successful platings, viz., 443, 51.4 per cent. were Shiga infections, 40.1 per cent. were Flexner infections, and 8.3 per cent. were irregular strains of *B. dysenteriae*. In one consecutive series of 105 stools from acute cases, specific dysentery bacilli were recovered in 59.2 per cent. In a series of 364 stools from subacute or chronic cases, which contained no obvious blood or mucus, 10.9 per cent. were positive, and of these Flexner infections were twice as numerous as Shiga. In a series of British and Indian dysenteric stools, *B. dysenteriae* were isolated from 32.6 per cent. of the former and 22.6 per cent. of the latter. *B. dysenteriae* dies out quickly from the stools and disappears when the acute stage of the disease is passed and when the stool becomes fecal. Thus 50.0 per cent. of the platings were successful during the first week, 36.0 per cent. in the second week and only 27.0 per cent. during the third week. In 6,550 samples of feces in all stages of the disease 19.2 per cent. were found to contain *E. histolytica* or its cysts.

Swelling of Neck After Thyroidectomy.—About two hours after the removal of an enlarged right lobe of the thyroid the patient's neck was noticed to be swollen to an unusual extent. On removal of the sutures and opening the wound the omohyoid and other thin muscles of the neck were found to be very edematous. Except for slight capillary oozing, there was no arterial or venous hemorrhage to account for the swelling and so the wound was closed and dressed as before. The swelling continued and increased that day involving the left side of the neck as well, but it commenced to subside after twenty-four hours and the patient made an uninterrupted recovery. The patient never had tachycardia, dyspnea, dysphagia, nerve pressure or other symptoms of toxic secretion. No explanation is given by Lauddie as to the cause of the swelling.

Gallstones in Inflamed Gallbladder.—Six large stones were removed from a gallbladder by Porter. The stones were all broken across and the fractured surfaces could be fitted accurately to make smooth round stones. He is unable to suggest a reason for its occurrence. No forceps were used to remove the stones. It was done by a scoop.

Japan Medical World, Tokyo

January, 1922, **2**, No. 1

*Pharmacologic Studies of Few Derivatives of Chaulmoogra Oil. M. Ohara.—p. 1.
*Studies on Rat Leprosy. M. Uchida.—p. 4.
Simple Procedure to Exclude Central Mechanism of Body Temperature Regulation. S. Morita.—p. 7.
Strain of Pyogenic Diplococcus. M. Kusunoki.—p. 10.

Pharmacology of Chaulmoogra Oil Derivatives.—Ohara's studies have shown that sodium gynocardate, gynocardate ethylester and gynocardate idio-ethylester produce central paralysis. The toxic action is more marked with sodium gynocardate, next idio-ethylester and the least is ethylester. On isolated frog heart the idio-ethylester had almost no action, but ethylester has a slight paralytic action. They have inhibitory actions on the isolated rabbit intestine. On rabbit uterus they have stimulating action. They seem to act on the muscles themselves. The action of gynocardate idio-ethylester is the weakest. On the blood vessels all three drugs have contracting action. In diluted solutions they seem to have dilatating caution on the rabbit ear vessel. On the blood pressure, sodium gynocardate exerts a transitory lowering while the other two drugs have only a lowering action.

Rat Leprosy.—Experimentally Uchida was able to infect rats *(Mus decumanus)* and white rats with rat lepra. Nankin mice and French mice can also be infected. The pathologic changes seen in the infected white rats are more marked than those seen in natural rat leprosy. The rats and white rats infected with human lepra bacilli do not produce leprous changes. Etiologically, it is different from the rat lepra bacillus. Rat fleas on the body of rat leprosy carry many acid fast bacilli. Pure cultures of four strains were obtained from cultural experiments. One of the four produces pigment but the others do not. The other three have different cultural characteristics. Which of these four strains of the bacilli obtained is the etiologic organism is not yet determined.

Medical Journal of Australia, Sydney

March 18, 1922, **1**, No. 11

Infantile Mortality in New South Wales. J. S. Purdy.—p. 287.
Aortic Regurgitation: Its Prognosis and Treatment. H. W. Moxon.—p. 297.
*Inhalation of Petrol. A. W. St. Ledger.—p. 300.

March 25, 1922, **1**, No. 12

Importance of Acid Content of Gastric Juice in Etiology, Symptomatology and Treatment of Gastric and Duodenal Ulcers. A. E. Mills.—p. 313.
Vascular Hypertonus. H. J. Ritchie.—p. 318.
Prevention of Tuberculosis. F. J. Drake.—p. 322.
Malignant Ovarian Cyst with Splenic, Peritoneal and Pleural Metastases. A. A. Lendon.—p. 323.

Inhalation of Petrol.—While attempting to clear the petrol (gasoline) pipe of his car, Ledger's patient had sucked a considerable amount into his mouth. As this happened "he caught his breath" and some of it "went down the wrong way." Immediately he had an acute pain in the right hypochondrium, stabbing and colicky in character and much increased by respiration. The respiration was short and jerky and his breath smelt distinctly of petrol. There was no cyanosis or coughing. The respiratory movement seemed inhibited on the right side. The epigastrium was rigid and immobile. The rigidity was pronounced and accompanied by distention and tympany. There had been no vomiting. Six hours after admission he commenced coughing; the sputum was tinged with blood. The hemoptysis increased and with the increase of the pulmonary signs the abdominal signs became less definite and the picture changed to an acute pleuritic condition. Subsequently a marked effusion occurred and persisted for fourteen days. The fluid was gradually absorbed; tapping was not necessary. This case is of interest from the comparative rarity of its cause and the acute and confusing signs that resulted. Ledger regards the hemoptysis as due to a mechanical distension of the bronchioles, brought about by sudden volatilization of aspirated petrol. The abdominal signs were evidently referred through the intercostal nerves; the pleuritic effusion was secondary to the trauma.

Practitioner, London

April, 1922, **108**, No. 4

New Immunizing Tuberculosis Vaccine: Results of Treatment. N. Raw.—p. 229.
Lupus Erythematosus. J. M. H. MacLeod.—p. 236.
Sterility. S. Forsdike.—p. 243.
*Venous Thrombosis and Gastric Carcinoma. T. G. Moorhead.—p. 252.
Roentgen Rays in Dermatology. H. C. Semon.—p. 259.
Some Remote Effects of Tonsillitis. A. B. Pavey-Smith.—p. 271.
Hypothyroidism and Vicious Circle. J. B. Hurry.—p. 283.
*Drainage of Lower Abdomen. A Simple Method. G. Robertson.—p. 295.

Peripheral Venous Thrombosis Early Sign of Stomach Cancer.—Four cases have come under Moorhead's observation which attracted his attention forcefully to the importance as a diagnostic sign of gastric cancer of the occurrence of "obliterative phlebitis." The first case belongs to the rare group of cases of latent carcinoma of the stomach in which the first symptom to attract attention is the peripheral venous thrombosis. The second case is an example of the type in which the thrombosis occurred as a late, almost terminal, phenomenon. In the third case thrombosis of the left subclavian and left axillary vein directed attention to the possibility of carcinoma. An exploratory operation made a few days later disclosed an inoperable adenocarcinoma of both ovaries. In the fourth case practically every superficial vein in the body, including the veins of the abdominal wall, became thrombosed. Cancer involved the pancreas, the stomach, colon and liver. There was thrombosis of both femoral veins, extending upward into the inferior vena cava as far as the renal veins.

Drainage of Lower Abdomen.—In cases of large purulent or seropurulent effusion, lying free in the general peritoneal cavity, it has been Robertson's habit to introduce a suprapubic drain after exposing the causative lesion, but previously to dealing with the visceral accident. In this way the peritoneum, mechanically traumatized by the necessary manipulations of the chief operation, has considerably less toxic material to absorb, because a large portion of the effusion will escape through the suprapubic tube, and flow over the skin surface.

South African Medical Record, Cape Town

March 25, 1922, **20**, No. 6

Standard of Cure in Syphilis. A. R. Fraser.—p. 102.
Exophthalmic Goiter: Surgical Aspect. E. C. Long.—p. 110.
Id. Medical Aspect. A. W. Falconer.—p. 111.
Id. Electrotherapeutic Treatment. L. E. Ellis.—p. 113.
*Expulsion of Foreign Body by Unique Route. J. M. Whyte.—p. 116.

Mass of Cotton Wool Left in Pelvis Expelled from Vagina.—A young woman was operated on for ovarian dermoid of the left side. The dermoid was removed. Twelve days later she developed thrombosis of the left leg. Her temperature remained high for eleven days. She recovered and three and one-half years later (September, 1918) she gave birth to a child, the confinement being normal and the child healthy. May 12, 1921, Whyte found her suffering from pain in the right iliac fossa; her temperature and pulse were normal; no abdominal rigidity was present. On applying heat the pain subsided. The following day she was without pain. May 14 the pain again appeared without abnormal temperature or rigidity. Vaginal examination disclosed a small hard mass lying in the area of the outer portion of the right fallopian tube near the fimbriated end. Periodically, after this time pain appeared in the right side of the pelvis. These pains were particularly severe during the day before the menstrual period. Once the flow set in the pain rapidly diminished. After each menstrual period the mass was found to have moved slightly nearer the uterus. During the latter portion of July and the early part of August she complained of pain shooting down the right leg; the mass at this time was lying in the isthmus of the fallopian tube close to the uterine wall. On the morning of August 15 she was douched. Toward evening of the same day she developed pains in her back and sides. Next day the pains became more severe in character. Shortly after midday the mass was expelled through the vagina. After the expulsion of the mass the pains quickly subsided. Menstruation set in the following day. On examination after the flow had ceased no mass could be felt in the fallopian tube. Some hardening and thickening of the tube was present. Since that time the patient has been in the best of health, and experiences no pain or discomfort. On its emergence from the vagina the mass was found to be about the size of a shilling, and very hard. One half of the mass was thickened, due to its being folded over; the other half was thin. The whole was pressed flat. It was thickly covered with mucus slightly tinged with blood, and had a very fetid odor. On unravelling, it was found to be a very compressed mass of cotton wool. After washing and drying, it weighed 0.6 gm.

April 8, 1922, **20**, No. 7

Toxemias of Pregnancy. S. E. Kark.—p. 123.
Introduction to Clinical Study. C. F. M. Saint.—p. 127.
*Choice of Irrigating Solutions in Treatment of Gonorrhea. A. R. Fraser.—p. 131.
Embryology: Its Scope and Aims. M. R. Drennan.—p. 134.

Irrigating Solutions for Gonococcic Urethritis.—The ideal irrigating solution for the treatment of gonococcic urethritis Fraser says has not been found. In his experience the following solutions are generally sufficient to deal successfully with the vast majority of cases: potassium permanganate, from 1:12,000 to 1:8,000, with the addition of 0.5 per cent. sodium carbonate; zinc permanganate, from 1:10,000 to 1:6,000; mercury oxycyanid, from 1:8,000 to 1:4,000; silver nitrate, from 1:20,000 to 1:10,000.

Archives Médicales Belges, Liége

January, 1922, **75**, No. 1

Medical Teaching in the United States. J. Duesberg.—p. 1.
*Radiography of the Stomach. Van de Maele.—p. 15.

Radiography of the Stomach.—Van de Maele relates a case in which the roentgen rays revealed deep indentations in the greater curvature of the stomach, misleading to the assumption of cancer and a useless operation. The surgeons decided after two examinations on intervention for gastric cancer.

They were surprised to find the stomach absolutely normal in every respect, but the spleen was nearly double its normal size and covered with tuberosities. Van de Maele remarks that this blunder in diagnosis could have been prevented by a pneumoperitoneum as this would have shown clearly the condition of the spleen.

February, 1922, **75**, No. 2

Parthogenesis and Cancer. N. Goormaghtigh.—p. 97.
Surgical Tuberculosis. Caluwaerts and Cardijn.—p. 111.
*Late Accident Due to Neo-Arsphenamin. Van Winsen.—p. 121.

Late Accident Due to Neo-Arsphenamin.—Van Winsen reports a fatality for which evidently the arsenical was responsible. The young man of 23 had been given twenty intravenous injections, a total of 11 gm. of neo-arsphenamin. Five days after the last injection he was sent to the hospital for febrile gastric disturbance and headache, followed by pain in the right side, jaundice, convulsions, hemorrhages, coma and death the fifth day. Necropsy showed congestion of all the organs, especially the lungs and the liver, and disseminated suffusions in the brain, but no macroscopic lesions of any organs. No arsenical was found after careful analysis of a portion of the liver, and microscopic examination showed merely congestion without much alteration of its structure, and no spirochetes were found in the liver. The cause of the fatality is thus a mystery. Such mishaps are probably due to a combination of several causes, plus an individual predisposition, which unfortunately cannot yet be foreseen. It is also possible that these intravenous injections modify endocrine glands, directly or through the sympathetic nervous system.

Bulletin de l'Académie de Médecine, Paris

March 21, 1922, **87**, No. 12

*The Tuberculous Lung. P. F. Armand-Delille and P. Darbois.—p. 328.
*Cage Treatment of Wounds. H. Reynès.—p. 329.
*Autoserotherapy in Gonorrhea. Schachmann.—p. 331.
*Stain Test of Kidney Function. J. Hatiegan.—p. 333.
*Symptoms and Treatment of Electric Accidents. M. d'Halluin.—p. 335.
Pneumomycosis and Black Tongue. Sartory and Scheffer.—p. 339.

Congestion and Infiltration of Tuberculous Lung.—Comparison of the stethoscope and roentgen findings in children and adolescents has disclosed an unexpectedly large proportion of cases in which a lung with even a minute tuberculous focus shows massive congestion and infiltration. This is what Grancher called splenopneumonia. It seems to be the special form of reaction of the youthful lung to the tuberculous invasion.

Cage Treatment of Wounds.—Reynès treats certain wounds by refraining from any dressings, merely placing over the region a square wire netting frame, the sides of which are covered with a layer of muslin and the top with a sheet of transparent celluloid. The wound is thus protected against dust, etc., while left open to the air and direct inspection.

Autoserotherapy in Gonococcus Infection.—Schachmann reports very favorable impressions from subcutaneous reinjection of 1.5 c.c. of the patient's own blood serum in fifteen cases of acute gonorrhea and in five cases of gonococcus ophthalmia neonatorum. The ophthalmia subsided remarkably promptly.

Stain Test of Liver Functioning.—Hatiegan's experience has confirmed that the diseased liver does not allow the passage of indigo carmin into the bile. Bile obtained with the duodenal tube failed to show the presence of the stain in cases of catarrhal jaundice for up to four or six weeks, although bile pigments were abundant. Evidently different cells in the liver are concerned.

Factors in Death from Electrocution.—D'Halluin explains that the heart is predominantly affected with a comparatively weak current, while the respiration center bears the brunt of the stronger current. The stronger current may even arrest the fibrillation of the heart induced at the onset of the electrocution. The symptomatology is thus dual, from heart and respiration center, and treatment must aim at both these. The loss of consciousness is not from the nervous shock but from the anemia of the brain; the victim has time to cry out. The prognosis therefore is actually more favorable in apparent death from a live wire accident the higher the current, within certain limits. The cases generally regarded as the gravest ones, in reality are more often followed by recuperation than the milder ones. Artificial respiration and rhythmic compression of the chest will keep up the circulation enough to allow the centers in the medulla oblongata to recuperate. The grave danger is the inability to arrest the fibrillation of the heart. This is easily accomplished in animals by giving them an additional electric shock, but this is too heroic for human beings. D'Halluin has found that the same result may be accomplished by an intravenous injection of potassium chlorid. The shock from this arrests the heart action completely, and then immediate direct massage starts it again in the normal rhythm. Knowledge of the physiology of the heart forbids the hope of finding any simple measure effectual in these desperate cases.

March 28, 1922, **87**, No. 13

To Promote Vaccination Against Typhoid. L. Bernard.—p. 350.
Tuberculin Test of Dairy Cows. A. Calmette.—p. 352.
Homes for Nursing Women; General Discussion. L. Bernard.—p. 360.
Elaïdic Acid in Therapeutics. E. Doumer.—p. 370.
*Disinfection of Crèches. C. Mulon.—p. 374.

Disinfection of Crèches.—Mulon deplores that too much reliance is placed on routine sterilization of rooms and garments with open formaldehyd in the day nurseries for infants.

Bulletins de la Société Médicale des Hôpitaux, Paris

March 24, 1922, **46**, No. 11

*Gonococcus Septicemia. E. Sacquépée.—p. 493.
General Paresis with Mental Confusion. P. Merklen and M. Minvielle.—p. 501.
Diaphragmatic Eventration. E. Fatou and L. Lafourcade.—p. 505.
*Mitral Stenosis with Arrhythmia. O. Josué and G. Barbier.—p. 516.
Character of Movements in Epidemic Encephalitis. E. Krebs.—p. 522.

Gonococcus Septicemia.—The septicemia developed in the first few days of acute gonorrhea, after an attack of diphtheria, and it kept up for four months. The gonococcus was cultivated from the blood at first, and then the streptococcus, and there was a process of pneumonia for which the pneumococcus was responsible. The pneumonia yielded promptly to antipneumococcus serum, and the whole clinical picture subsided after the fourth intravenous injection of antigonococcus serum.

Presystolic Murmur with Mitral Stenosis and Absolute Arrhythmia.—Josué theorizes to explain this combination in the man of 43.

March 31, 1922, **46**, No. 12

Sphygmomanometry: Technic. C. Lian.—p. 529.
Subcutaneous Injections of Iodized Oil. E. Rist et al.—p. 533.
Intratracheal Injections: Technic. P. Dalché.—p. 537.
Autohematotherapy in Protracted Infections. Lauze.—p. 538.
Case of Rat-Bite Fever at Paris. Troisier and Clément.—p. 542.
Rat-Bite Fever. J. Comby.—p. 549.
Leishmaniasis in Child in France. D'Oelsnitz et al.—p. 550.
*Epidemic Encephalitis with Polyuria. R. Benard.—p. 553.
Membranous Croup in Two Adults. Troisier et al.—p. 557.
Pituitary Syndrome. C. Achard and J. Rouillard.—p. 562.
*Lymphogranulomatosis. Laignel-Lavastine and E. Coulaud.—p. 567.
*Lymphogranulomatosis. J. Genévrier and M. Lorrain.—p. 570.

Epidemic Encephalitis with Polyuria.—Benard comments on the rarity of polyuria with epidemic encephalitis. He has found only 3 cases on record, and compares with these a case in which the young man's epidemic encephalitis was accompanied by an output of urine increasing in the third week from 4 to 16 liters and up to 20 liters by the end of the month. Then pituitary treatment reduced it to 8 or 12 liters, but was unable to reduce it more than this. Psychotherapy at this stage proved effectual and the polyuria gradually disappeared. It was evidently of pituitary origin to start with, but later the nervous element predominated. It is incorrect therefore to try to draw a sharp distinction between pituitary and nervous polyuria.

Lymphogranulomatosis.—The enlarged glands in the case of lymphogranulomatosis in the man of 30 were exposed to the roentgen rays in turn, and after a period of exacerbation of the pains, fever and other symptoms suggesting an infectious disease, the symptoms all disappeared and the glands retrogressed. The microscope showed sclerosis of sections of the glands that had been rayed. It seems impossible, however, that the mild dose of 10 H. units could have caused such a complete transformation. The cure seems absolute

after the febrile course of several months. Defervescence was abrupt and definite.

Mediastinal Lymphogranulomatosis.—The first symptoms had been those of right pleurisy with effusion in the young woman, and radioscopy showed puzzling findings in the lungs. The mild fever kept up and there was occasional dyspnea and pains in the chest. There was no cough and no pruritus but the anemia and emaciation were extreme by the end of the year and epistaxis was frequent. The spleen and liver had enlarged and the right lung persisted opaque. Necropsy revealed lymphogranulomatosis in the mediastinum with nothing to suggest sarcoma or tuberculosis.

Paris Médical

April 1, 1922, **12**, No. 13

*Pathology of Digestive Apparatus in 1922. P. Harvier.—p. 261.
*Bed Rest in Treatment of Stomach Disease. P. Le Noir.—p. 270.
*Dislocation of the Pylorus. F. Ramond.—p. 274.
*Drip Feeding by the Duodenum. P. Carnot and E. Libert.—p. 276.
*The Intestinal Alarm Clock. J. Bauman and J. J. Matignon—p. 279.
Roentgen Diagnosis of Duodenal Ulcer. Guénaux and Vasselle.—p. 284.
*The Pylorus with Ulcer in Lesser Curvature. L. Timbal.—p. 287.
Direct Local Treatment of Rectum and Colon. G. Friedel.—p. 291.

Pathology of the Digestive Apparatus in 1922.—Harvier devotes ten pages to this annual review of the more important works in recent international literature, including a number from THE JOURNAL.

Bed Rest in Stomach Affections.—Le Noir declares that few realize the advantages of staying in bed during treatment for severe dyspepsia and other nonfebrile stomach disturbances. The functioning of the digestive apparatus is much facilitated by the reclining position; the viscera are inclined to sag in the erect attitude, and as they sag they become kinked, the colon in particular, and they drag on the nerves. Bed rest also does away with belt and skirt bands and the weight of clothing. The radiation of heat is minimal, and less calories are required. Digestion can proceed unhampered, while even the mildest exercise after eating may check or suspend digestion. In bed, the skin and the vegetative nervous system and the senses escape numerous causes of irritation. For these and other reasons advanced, he regards keeping in bed as one of the best methods to combat painful dyspepsia, nervous disturbances affecting the stomach, dyspepsia with tendency to emaciation, and gastric disturbances of reflex origin. Staying in bed, he remarks in conclusion, ought to take the place of drugs, which are often useless and sometimes directly injurious.

Dislocation of the Pylorus.—Ramond applies this term to the pylorus when it stays in its normal place while the rest of the stomach stretches and sags very low. The traction from the sagging stomach or the duodenum or both may induce pain or reflex colic. The clinical picture may suggest gastric ulcer, but the disturbances may all subside when a supporting band is worn to keep the stomach from sagging. As the elasticity of the stomach walls is regained, conditions may right themselves, or a gastro-enterostomy may be required.

Duodenal Drip in Treatment of Anorexia and Uncontrollable Vomiting.—Carnot and Libert report a case of mental anorexia in a young woman of six years' standing which finally became complicated with uncontrollable vomiting. Her weight was reduced to 64 pounds when they began to feed her through a duodenal tube, by the drip method, with sweetened water first and then condensed, sweetened milk. This is assimilated without need for gastric digestion. This drip feeding could be kept up even during sleep, and normal conditions were finally restored, the patient almost doubling her weight in four months. The duodenal feeding had been kept up for two or three months; no attempt at natural feeding was made until the patient begged for it herself. The tube was 2 mm. in diameter and the amount of milk thus ingested finally totaled 3½ l. a day.

The Intestinal Alarm Clock.—This term is applied by Bauman to one of the minor signs of what he calls enterocolism: The patient is waked every night at a certain hour by a transient pain in the right flank. There is hypertension in the abdomen. This may be from excessive amounts of gases or from spasmodic contractions with small amounts of gas. The solar plexus is almost always tender, but a number of cases described show that this alarm clock symptom may accompany a wide variety of intestinal disturbances. Radioscopy explains them and is the guide to treatment.

Pyloric Functioning with Ulcer of the Lesser Curvature.—Timbal reports that the pyloric function was normal in 13 of 25 patients examined with the roentgen rays; in 9 the motor functioning was retarded, and spasm of the pylorus was evidently responsible for this in 5 cases. In 3 cases the peristalsis was intense and the evacuation hasty.

Presse Médicale, Paris

April 1, 1922, **30**, No. 26

The Metabolism of Fats. H. Roger and L. Binet.—p. 277.
Shortest Infecting Period with Tubercle Bacilli. C. Souleyre.—p. 279.
Pain from Distention of Heart: Decubitus Angina. Lutembacher.—p. 281.

April 5, 1922, **30**, No. 27

Striate Body Syndrome of Syphilitic Origin in the Elderly. J. Lhermitte and L. Cornil.—p. 289.
Diphtheria Antitoxin in Prophylaxis of Orchitis in Mumps. F. Carrieu.—p. 292.

April 8, 1922, **30**, No. 28

Chronic Appendicitis. G. Laroche et al.—p. 297.
Treatment of Femoral Hernia. A. Richard.—p. 301.
Dangers of Pituitary Treatment in Obstetrics. L. Cheinisse.—p. 302.

April 12, 1922, **30**, No. 29

*The Steinach Rejuvenation Operation. G. Marinesco.—p. 309.
*Signs of Sclerosis of the Aorta. A. Mougeot.—p. 311.
Protracted Pneumococcus Septicemia. Loubet and Riser.—p. 314.

The Steinach Rejuvenation Operation.—Marinesco's views were reviewed in these columns recently, page 1346, when published elsewhere. He recalls Pézard's statement in 1918 that the adult cock and the golden pheasant have no interstitial cells during the reproductive period.

Signs of Sclerosis of the Aorta.—Mougeot explains that the aorta responds purely mechanically to the intermittent propulsion of the heart beat. The normal aorta behaves like a rubber tube with thick walls. The sclerous tube behaves more like a tube of thin steel; it does not stretch, but it is more elastic. That is, it recovers its primary form more readily. This difference is perceptible when the pulse wave is examined close to the heart, as in the arm. The suddenness and rapidity of the rise in the pulse wave testify to the sclerosis of the aorta, which suppresses the deadening effect of stretchable aorta walls. This sign of an excess of active force in the pulse wave is evident before auscultation and radioscopy give conclusive findings. The differential pulse pressure is also increased, the systolic rising while the diastolic keeps at the normal figure. A third sign is the relative hypertension in the legs. This may be so pronounced as to be evident with the Riva-Rocci cuff. The other signs are best investigated with a more sensitive instrument, such as Pachon's oscillometer. The fourth of these dynamic signs is that the femoral pulse precedes the radial. The femoral pulse at the root of the thigh and the radial pulse at the wrist are synchronous in health and with abnormally high or low pressure from other causes, but with "rigidification" of the walls of the aorta, the pulse wave reaches the thigh before it reaches the wrist, unless the arteries in the arms are rigid themselves. Some pulse tracings are given, showing in one case this precedence of the femoral pulse by 0.04 second. Functional insufficiency of the left ventricle may obscure the first three of these signs, and with an aneurysm in the aorta the findings are directly the reverse, even to the precedence of the radial pulse.

Progrès Médical, Paris

March 4, 1922, **37**, No. 9

Present Status of Deep Radiotherapy. H. Lebon.—p. 97.
Pathology of the Thymus in Children. Lereboullet.—p. 102.

March 18, 1922, **37**, No. 11

Physiologic Variations of Pepsinemia. Loeper and Debray.—p. 121.
Rise in Peptic Activity of Serum with Nonpermeable Kidneys. Loeper and Debray.—p. 121.
Operative Indications in Purulent Pleurisy. E. Pallasse.—p. 122.
Chronic Retention of Prostatic Origin. Legueu.—p. 124.
Aluminum Salicylate in Treatment of Diarrhea. A. Rochas.—p. 126.

March 25, 1922, **37**, No. 12

Malta Fever in Southeastern France. Roziès.—p. 133.
Ileocecal Tuberculosis. M. Loeper.—p. 135.
The Genital Glands and the Growth. Lereboullet.—p. 137.
Pylorospasm in the New-Born. H. Vignes.—p. 141.

April 1, 1922, **37**, No. 13

Character of Movements in Epidemic Encephalitis. Krebs.—p. 145.
*Manoukhin Treatment of Tuberculosis. Donat.—p. 147.
Bronchitis and Pneumonia in Whooping Cough. Nobécourt.—p. 151.

April 8, 1922, **37**, No. 14

Lead Poisoning in Automobile Body Painters. F. Heim et al.—p. 157.
Thyroid Psychoses. Laignel-Lavastine.—p. 158.
Artificial Pneumoperitoneum. G. Paturet.—p. 163.

Treatment of Tuberculosis by Mild Roentgenization of the Spleen.—Donat reports twenty-five cases treated by the Manoukhin method, namely, stimulation of the spleen with a small dose of roentgen rays. This promotes production of a ferment which dissolves leukocytes and thus releases specific antibodies, stimulating bone marrow functioning and hence the production of new leukocytes. The cases were taken at random in the Calmette dispensary and some were too far advanced for any relief. The results showed, however, he says, that with this treatment the bacilli disappeared from the sputum, and that considerable improvement—perhaps a cure—can be anticipated in any form of tuberculosis, in lungs, bones or joints, provided the patient can take ample nourishment. The method should be tried even in the most desperate cases, as an actual resurrection was observed in one instance. Manoukhin published in the *Lancet*, Oct. 8, 1921, an account of his success in a large proportion of the 8,000 cases in which he applied this method in Russia. A summary of Manoukhin's work in this line appeared in these columns, April 30, 1921, p. 1280.

Schweizerische medizinische Wochenschrift, Basel

March 30, 1922, **52**, No. 13

*Prophylaxis of Goiter. A. Oswald.—p. 313.
Iodin Tablets in Prophylaxis of Goiter. R. Klinger.—p. 315.
Development of Secondary Sex Characters. A. Gigon.—p. 316.
Tasks and Aims of Study of History of Medicine. H. E. Sigerist.—p. 318.
Lipomatosis Indolens Simplex. T. Hasegawa.—p. 322.

Prophylaxis of Goiter.—Oswald's experience suggests that the most effectual means for prophylaxis of goiter is by giving 1 or 2 mg. of sodium iodid once a week all through the year to schoolchildren and to pregnant women. In order to keep up the iodin after leaving school, he advocates the use of iodized salt. Sea salt naturally contains iodin. The previous attempts to use iodized salt failed because too much iodin was used.

Policlinico, Rome

March 15, 1922, **29**, Surgical Section No. 3

*Resection for Invagination. G. Beccherle.—p. 129.
*Spontaneous Amputation of Appendix. O. Cignozzi.—p. 138.
*Femoral Herniotomy. L. De Luca.—p. 141.
*Surgical Disease of the Spleen. G. Fichera.—p. 146. Conc'n.
*Reconstruction of Defects in Skulls. G. Giorgi.—p. 168. Conc'n.
Present Status of Radiotherapy. G. Rocchi.—p. 183.

Invagination.—Beccherle resected the invaginated portion which involved the ileum, cecum and colon, and the youth of 17 recovered without mishap. The mesocolon was unusually long in this case so that resection was indicated to avoid recurrence.

Spontaneous Amputation of the Appendix.—The man of 24 complained of a painful tumor in the umbilical region. It proved to be the spontaneously amputated appendix which had become wrapped up in omentum.

Treatment of Femoral Hernia.—De Luca reports the immediate and remote results of Parlavecchio's method for radical treatment of femoral hernia. He declares that this method has definitely solved the problem of treating this form of hernia. It has been applied to twenty-three women and seven men in his service and in over twenty-five cases in other Italian clinics, and there has been no recurrence in any instance, while healing was always by primary intention. The illustrations show how Poupart's ligament is drawn down to Cooper's ligament and the ligaments are sutured together, with three stitches, closing the opening.

Operations on the Spleen.—Fichera tabulates twenty-two cases of malaria in which he removed the much enlarged and sagging spleen. One patient succumbed to postoperative collapse and necropsy revealed chronic nephritis with atrophy and malarial cirrhosis of the liver. All the others recuperated remarkably in their general health after the operation.

Operative Treatment of Jacksonian Epilepsy.—Giorgi's personal observation and review of the literature confirm that recurrence is liable after latent periods of three, four or five years. It is always advisable to turn back an ample skull flap and incise the dura, for thorough inspection, but cures have been realized even without making a valve or excising the lesion in the cortex responsible for the convulsions. The postoperative paralysis after excision of brain substance usually retrogresses completely, and the convulsions liable to develop after the operation may cease entirely after an interval of months or even years. Parlavecchio's method of making an elastic valve in the rigid theca avoids the danger of sinking in of the bone on the brain, which is liable with Krause's method. The less cicatricial changes entailed by the operation, the less the danger of recurrence. Some of the surgeons cited have patients cured for from four to ten years to date. Recurrence is less liable when the cicatricial tissue is glia rather than connective tissue; there is less retraction with it, and hence less irritation of the brain. Extensive loss of tissue and infection tend to entail proliferation of connective tissue rather than of glia. Consequently every effort should be made to avoid stimulation of connective tissue formation.

Riforma Medica, Naples,

March 6, 1922, **38**, No. 10

*Action of Antibodies by the Mouth. L. Sivori.—p. 217.
Huge Congenital Cystic Lymphangioma of Neck. Giacanelli.—p. 219.
*Pathogenesis of Endemic Cretinism. A. Jona and A. Lusso.—p. 223.

Action of Antigens and Antibodies by the Mouth.—Sivori asserts that the prevailing disregard for the gastric route for incorporation of antigens and antitoxins is a great mistake. It should be regarded as the great main route for true natural immunity. Subjects without antibodies show the progressive appearance of antibodies in their serum when given tuberculin systematically by the mouth. Giving the antigen parenterally induces a precipitate immunization against a given bacterium and its toxins, and renders the organism more resistant to it.

Pathogenesis of Endemic Cretinism.—Jona and Lusso have been studying conditions at Cogne, a notorious mountain focus of endemic cretinism, and confirm that there is an evident connection between poverty and cretinism, and that alcohol, syphilis and inbreeding must be incriminated.

Tumori, Rome

March 15, 1922, **8**, No. 4

Endothelioma in the Parotid; Two Cases. L. Torraca.—p. 385.
*Tumors in Rectus Muscles. L. de Luca.—p. 406.
Cystoscopy and Catheterization of the Ureters in Examining for Uterine Cancer. V. Cantoni.—p. 418.
The Skin Manifestations in Hemoblastosis. Martinotti.—p. 448. Conc'n.

Tumors in Rectus Muscles.—The tumor was a fibrolipoma or an angiomatoid carcinoma in the two women of 44 and 45.

Semana Médica, Buenos Aires

March 2, 1922, **1**, No. 9

*Malignant Lymphogranuloma? I. Allende.—p. 321.
*Autoserotherapy of Serum Sickness. C. E. Pico.—p. 328.
*Artificial Dilatation of Uterine Cervix. C. Lanza.—p. 329.
Vitamins in Medicine. H. Damianovich.—p. 337. Cont'n.

Malignant Lymphogranulomatosis.—In this bedside lecture on a case of what seemed to be Hodgkin's disease in a young man, Allende warned of the necessity of caution with radiotherapy in such conditions, telling of one case in which radium treatment was followed as if by magic by the almost sudden disappearance of the enormous glandular tumors. The giant spleen also shrank to nearly normal size, but the final cachexia was hastened. In the case here described, of five months' standing, vigorous mercurial and arsphenamin treatment seemed to induce considerable improvement, but

the fever persisted unmodified. The bunches of glands in the neck were resected. The microscope showed that the one examined was a tuberculous lymphogranuloma.

Autoserotherapy of Serum Sickness.—Pico relates that serum sickness is common in Argentina, being observed in up to 45 or 55 per cent. of the cases except when beef serum is used. With the latter it does not occur in more than 3 to 5 per cent. It seems logical to treat serum sickness by reinjecting the patient's own serum, as he explains, and his success with this encourages, he says, further application of this autoserotherapy in prevention and cure of serum sickness. No effect was apparent in six cases in which the autoserum was injected into muscle or subcutaneously, but the benefit was prompt when 1 or 2 c.c. of the own serum was injected by the vein. Two or three injections at intervals of six or eight hours generally sufficed. The pruritus, pains, etc., disappeared in a few hours in the twenty patients thus treated; the eruptions and edemas subsided even more rapidly, and the temperature dropped abruptly.

Artificial Dilatation of the Uterine Cervix.—Lanza gives twenty-three illustrations of means for opening the os uteri. Most are only of historical interest. He advocates cesarean section rather than instrumental dilatation. Bonnaire's method of bimanual dilatation seems the least harmful.

March 9, 1922, **1**, No. 10

*Chorea. G. Aráoz Alfaro.—p. 365.
Tuberculosis in Argentina. N. Lozano.—p. 370
*Some Plastic Operations on the Face. O. Ivanissevich.—p. 382.
Some Ophthalmologic Questions. R. Argañaraz.—p. 389.
Plasmogenesis. G. Renaudet.—p. 401.

Chorea.—Aráoz regards ordinary chorea as a mild encephalitis predominating in the striate body. It may be caused by various infectious agents. Small epidemic foci of what has been called electric chorea, Dubini's or Frua's chorea are undoubtedly manifestations of epidemic encephalitis. During epidemics of the latter there may be cases of grave chorea, apparently of the pure type, or mixed in with the myoclonus of the epidemic disease. Syphilis and other infections and toxins, and fright may bring on the disease in the predisposed, but they are not the main factor.

Reconstruction of the Face.—Twenty-six illustrations show the various steps and outcome in three cases in which a disfiguring scar was corrected; large flaring ears brought close to the head, or a hare-lip corrected in a young woman.

Deutsche medizinische Wochenschrift, Berlin

Feb. 23, 1922, **48**, No. 8

Simplification of My Turbidity-Flocculation Reaction. Dold.—p. 247.
Reaction of Tuberculous Organism to Inoculation of Acid-Fast Saprophytes. B. and E. Lange.—p. 248.
*New Conception of Diabetes. Arnoldi and Roubitschek.—p. 250.
A Neglected Optical Principle. E. Schlagintweit.—p. 251.
Indicator for Gastric and Intestinal Fluids. Michaelis and Müller.—p. 252.
Influence of Radiothorium on Metabolism. K. Miyadera.—p. 252.
Capillary Circulatory Phenomenon Seen in a Pregnant and in an Eclamptic Patient. Hinselmann.—p. 254.
Effect of Strychnin on the Hearing. H. Lion.—p. 255.
Anaphylactic Phenomena After Serial Injections of Horse Serum. E. Makai.—p 257
Transportable Pneumothorax Apparatus. E. Leschke.—p. 258.
Use of Boiled Water for Moist Bandages. Glass.—p. 259.
A Simple Procedure for the Disinfection of Tuberculous Sputum. Simon and Wolff.—p. 259.
Disinfection of Tuberculous Sputum. T. Messerschmidt.—p. 260.
Present Status of Rachitis. R. Fischl.—p. 261. Conc'n.
Tumors of the Female Genital Organs. W. Liepmann.—p. 262.

Conception of Diabetes as Upset in Mineral Metabolism.—On the basis of a series of experimental and clinical observations, Arnold and Roubitschek set up a theory for the origin of hyperglycemia: The normal supply of sugar in the body, after being absorbed into the blood, is stored in deposits, whence it is carried, again by way of the blood, to the point of consumption; namely, the muscles. The amount of sugar consumed or oxidized will depend mainly on the quantity of material that reaches the places of oxidation. If the quantity is small, the amount of carbohydrate oxidized cannot be great. If the sugar, for any reason, is held back—dammed up, as it were—in the blood, hyperglycemia results. In other words, the underlying conditions of sugar transportation—that is, the sugar intake and output—determine the level of the blood sugar, and, on the other hand, along with other factors, exert an extremely important influence on the amount of sugar oxidized. The disturbance of metabolism in diabetes mellitus, in accordance with this theory, is regarded as the result of a breakdown of the sugar-transporting mechanism. The tissues themselves become less permeable to sugar and the other phenomena develop as the result of this disturbance. As to the cause of the breakdown of transportation facilities, different views are held. Arnoldi opposes Schmiedeberg's conception that it is due to changes in the sugar molecule, and postulates rather modifications in the contiguous surfaces of the cellular protoplasm, which make it more difficult for the sugar molecule to enter the tissues. The modified permeability is ascribed to changes in the mutual relations of the salts—potassium, sodium and calcium, etc.—which influence the colloidochemical structure of the contiguous surfaces of the cells. The writers bring further evidence in support of their theory, and report at length the favorable effect of mineral spring waters of the Carlsbad type on diabetic patients.

March 2, 1922, **48**, No. 9

Brain Puncture and Lumbar Puncture in the Diagnosis and Prognosis of Brain Abscess. W. Rindfleisch.—p. 279.
The Ferment Producing Blood Coagulation. R. Stephan.—p. 282.
Origin of Lung Hemorrhages. L. Rickmann.—p. 284.
Necropsy Finding in Remission of Pernicious Anemia. Zadek.—p. 285.
Two Cases of Malaria-Like Fever. W. Brauns.—p. 287.
Bilateral Nontraumatic Aneurysm Between Internal Carotid Artery and Cavernous Sinus, plus Exophthalmos. Riehm.—p. 287.
Physiotherapy in Emphysema. R. Fetscher.—p. 289.
Traumatic Neuroses and Their Practical Significance. Horn.—p. 289.
Purulent Peritonitis After Tonsillitis. E. Schilling.—p. 290.
Antisyphilitic Treatment of Keratitis. Langendorff.—p. 290.
Case of Progressive Lipodystrophy. J. Schwenke.—p. 292.
Turpentine in Treatment of Abscesses of the Sweat Glands of the Axilla. J. Kuhle.—p. 293.
Clinical Aspects of Scabies in Infants. J. Heilmann.—p. 294.
Inoculation Against Rabies with Ether Treated Virus. Alivisatos.—p. 295.
Relations Between Genital and Urinary Organs. W. Liepmann.—p. 296

Deutsche Zeitschrift für Chirurgie, Leipzig

March, 1922, **169**, No. 3-4

*Multiple Exostoses and Enchondromas. M. Mettenleiter.—p. 153.
*Tumors in Twins. H. Burkard.—p. 166.
*Cineplastic Operation Stumps. C. ten Horn.—p. 175 and p. 185.
*Therapeutic Paralysis of the Diaphragm. K. Lange.—p. 199.
*Osteochondritis Coxae Juvenilis. M. Hagenbuch.—p. 289.

Multiple Cartilaginous Exostoses and Enchondromas.—In one of the 4 cases described the multiple enchondromas developed after the age of 22. In another case the multiple exostoses involved even the bones of the face. Mettenleiter is inclined to group this anomalous bone growth with the Legg-Calvé-Perthes', Schlatter and Köhler's disease. The thickening of cartilage at one point in these latter affections is the first phase of multiple exostoses. Multiple enchondromas and Ollier's disease, on the other hand, lead up to sarcoma.

Similar Tumors in Twins.—The twin sisters of 21 developed each a fibro-adenoma in the left breast, at almost the same time, and in the same part of the breast. The structure of the tumor was alike in both, and both were removed at the same time.

Cineplastic Amputations.—Ten Horn has continued his study of the ultimate outcome after Sauerbruch's cineplastic method of restoring volitional control to amputation stumps. The sensibility and dissociation of the muscles and the stretching of the muscles forming the tunnels are discussed here.

Pathologic and Therapeutic Paralysis of the Diaphragm.—Lange adds 40 new cases to the 43 on record in which the phrenic nerve was resected in pulmonary tuberculosis. He analyzes the therapeutic factors involved, reiterating that the healthy diaphragm does not aid in expectoration; the latter proceeds better when the diaphragm is paralyzed. But the phrenicotomy is not applied as a curative measure any more, but only for diagnosis. Experience has demonstrated that with a severe tuberculous process in one lung, if the general condition improves after phrenicotomy on that side, then con-

ditions are favorable for an extensive extrapleural thoracoplastic operation on the diseased side. In 23 dubious cases this proved a most valuable guide. The course of the cases confirmed the verdict afforded by the phrenicotomy. The latter has also proved useful in treatment of bronchiectasis, empyema, contraction of the diaphragm, uncontrollable singultus, and in one case the bilateral phrenicotomy saved the patient in severe tetanus with spasm of the respiratory muscles; artificial respiration (over-pressure) was kept up at the same time. In 2 cases the phrenicotomy was done merely to aid in resection of a cancer of the cardia or a rib, and once for cardiospasm. As a single treatment for pulmonary tuberculosis, phrenicotomy has not answered anticipations, but from the surgical standpoint its indications are growing constantly more extensive. Bibliographic references to a total of 204 titles are appended.

Osteochondritis of the Hip Joint.—In the case illustrated by Hagenbuch the hip joint disturbance was under observation almost from the first, and the development of a similar process in the second hip joint occurred under the physician's eyes, in the girl of 12½. The findings confirm that the lesion is a mild chronic osteomyelitis.

Medizinische Klinik, Berlin

March 5, 1922, **18**, No. 10

*Jaundice After Arsphenamin. G. Stümpke.—p. 295.
*Impotence in Women. W. Liepmann.—p. 299.
Beginning Squint in General Practice. Asmus.—p. 301.
Sahane's Diagnosis by Galvanopalpation. A. Laqueur.—p. 302.
Postinfluenzal Abscess in Lung. Hildebrandt and Geulen.—p. 304.
*Provocation of Malaria by Arsphenamin. H. Fernbach.—p. 306.
Determination of Plant Nutrients in Soil. Mitscherlich.—p. 308. Conc'n No. 11, p. 345.
*The Alcohol Questionnaire of the A. M. A. K. Brandenburg.—p. 311.

Jaundice After Arsphenamin.—Stümpke relates that in the last five years he has had 30 cases of jaundice and 3 very severe cases of atrophy of the liver. In one in this latter group the jaundice was well established before specific treatment had begun, but in another case it developed after a long course of arsphenamin treatment. In 8 cases the jaundice was probably due to injury of the liver from syphilis, as it developed with other manifestations of the secondary phase. In at least 5 of the 12 cases in syphilitics, the syphilis was evidently responsible for the jaundice; in 2 others mercury must be incriminated, and in 5 others the arsphenamin treatment. He advocates small, tentative, 0.15 gm. neoarsphenamin doses when a syphilitic develops jaundice. If these are well borne he keeps on with this treatment for two or three weeks and then doubles the dose. If the jaundice becomes aggravated or the general condition grows worse, he interrupts the treatment at once. He does not resume it till the last trace of the jaundice has disappeared as in these cases the syphilis cannot be held responsible for it.

Impotence in Women.—Liepmann discusses and replies to a recent work with this title by K. Friedländer. The latter classifies impotence in male and female as genital, germinal, spinal and cerebral. The inhibitions in women from various causes cooperate with the sexual differences to induce feminine impotence. Psychotherapy, rather than organotherapy, is what is required. He warns expressly against roentgen exposures aiming to stimulate function. Friedländer exclaims that he is unable to understand why Nature gave the one sex a so much stronger sexual impulse than the other, judged from Nature's aim to insure the reproduction of the species. He argues further that monogamy is Nature's plan to insure the rearing of the child. Liepmann comments that the law of inhibitions in the feminine psyche is the only safeguard of monogamy (Das Hemmungsgesetz im Seelenleben der Frau ist einziger Regulator der Monogamie).

Provocation of Malaria by Arsphenamin.—In a case of severe jaundice developing after arsphenamin treatment, acute yellow atrophy had been diagnosed but necropsy explained the clinical picture as the flaring up of tropical malaria under the influence of the arsenicals. The robust young man had never left Berlin, and there was no history of malaria, but the parents said that their son had occasionally complained of late of chills, exhaustion and somnolency. The tropical malaria parasite was found in the blood just before death. The two other known cases of provocation of tropical malaria by arsenical treatment proved promptly fatal, while in the provocative tertian and quartan cases the outcome was favorable. With early jaundice in arsenical treatment, search should always be made for malaria.

The Alcohol Questionnaire.—Brandenburg describes the data accumulated by the questionnaire of the American Medical Association, saying in conclusion, "To observe and learn from the working out of prohibition in the United States is of the highest interest for science and the general welfare. Reduction in the consumption of liquor benefits the public health—there can be no question about this. But time and experience will show whether this aim could not be reached in some other way than by strict prohibition."

Zeitschrift für Kinderheilkunde, Berlin

March 15, 1922, **32**: No. 1-2

*Outdoor Treatment of Influenza in Children. G. Rothgiesser.—p. 1.
*Tuberculosis in Children. R. Zimmermann.—p. 15.
*Active Immunization of Infants. C. Frankenstein.—p. 25.
Rumination in Infants. J. Bernheim-Karrer.—p. 34.
*Eruption with Endocarditis. H. Lehndorff and C. Leiner.—p. 46.
Tests of Backward Children. Lazar and Tremel.—p. 54.
Action of Calcium on Spasmophilia. A. Wetzel.—p. 105.
Hereditary Defect in Ossification of Top of Skull. Neurath.—p. 121.

Outdoor Treatment of Influenza.—Rothgiesser states that at the large institution for children with chronic diseases at Berlin, keeping the children systematically out of doors at all seasons, except when it rains, has reduced the number of catarrhal colds, influenza and other infections from 0.58 per child in the first month of the stay to 0.08 by the twelfth month. She gives a number of charts showing how the rachitic, in particular, escaped catarrhal "colds" completely but how the tendency returned when for any reason they had to be kept indoors for a couple of weeks before they had outgrown the catarrhal tendency completely.

Tuberculosis in Children.—Zimmermann found all the tuberculin tests negative in 108 of 582 children (18 per cent.) although in some of them tuberculosis was beyond question. Among 753 children examined he found persistent dulness at the right apex in 67 and at the left apex in 21, but even with these findings he is inclined to agree with Grosser that in 99 per cent. of cases of apical disease in children, "the findings are not the product of tuberculosis but of subjective percussion and auscultation." Even when the child is actually infected with tuberculosis, the latter is not necessarily responsible for everything going on in the lungs. He found the d'Espine sign in 20 per cent.; uneven pupils in 7 per cent., and a visible network of veins over the hilus in 6 per cent., and the first two of these signs were combined in 1.5 per cent. of 472 children, and in 1 per cent. the first plus the third; all three were associated in 0.5 per cent. A primary focus was evident in about 6 per cent. of all the hundreds of children with mild tuberculous infection examined. In only 33 per cent. of the cases could the tuberculous nature of changes in the hilus be demonstrated, but even with scarcely recognizable tuberculous changes in the hilus, the cervical glands were tuberculous. The incurable cases of course are recruited from the mild cases, but conquering the mild infection seems to afford a protection for later in life. The article issues from a Hamburg sanatorium.

Active Immunization of Infants.—Frankenstein argues that infants are not capable of forming antibodies, so that vaccine therapy in them amounts to nothing more than parenteral protein body therapy. Experiences in this line with antibacterial vaccines seem to conflict with the success of antismallpox vaccination of infants, but his tests have confirmed that no or only traces of antibodies are found in the infants' serum even after successful vaccination. The immunization against variola, he shows, is a histogenous immunity, not a serum immunity. Even the youngest infants are capable of this histogenous reaction.

Annular Erythema.—Lehndorff and Leiner state that their experience has confirmed that the eruption of which they give a colored illustration is pathognomonic for endocarditis. The multiple faint rings on the red background, and their coming

and going resemble the eruption with what is called fifth disease. The have encountered it with chorea and acute articular rheumatism — all rheumatismal equivalents — but never with endocarditis or joint affections complicating any other infectious disease. This eruption comes and goes without causing the slightest disturbance, and even without attracting attention as a rule. It is usually restricted to the trunk but may appear occasionally on the limbs; the face and mucosa always escape.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Feb. 25, 1922, **1**, No. 8

*Endocrine Pathology. J. Lobstein.—p. 738.
*Thrombosis of Portal Vein. J. J. Halbertsma.—p. 751.
Influenza. H. A. Molema.—p. 760.
*Lung Calculus. H. Burger.—p. 764.
*Alimentary Edema. A. Willemse.—p. 768.

Endocrine Pathology.—Lobstein describes a case of dystrophia adiposogenitalis which developed along with a psychosis that presented the clinical picture of dementia praecox. The woman—now 48—was 31 at the time, and had borne four viable children. He debates whether there is any connection between the psychosis and the diabetes insipidus and the adiposis, being inclined to accept some endocrine disturbance as a factor in dementia praecox. He describes further a man of 44 with eunuchoid giant growth and the mentality of a child of 10.

Thrombosis of the Portal Vein.—Pains in the region of the spleen were the first symptoms in the previously supposedly healthy young woman. The pains in the left side had been growing progressively worse during the three weeks, with slight evening temperature, urobilinuria, 8,000,000 erythrocytes and 31,800 leukocytes. The pains grew more and more violent, with bloody diarrhea, and the presumptive diagnosis of thrombosis of the splenic and portal vein was soon confirmed by necropsy. There was nothing to suggest erythremia or other general disease to explain the thrombosis, and a primary endophlebitis in the portal vein seems more plausible. This is sustained by a sclerotic process found in the left lung. There was nothing to suggest syphilis otherwise. Halbertsma regards the polycythemia as secondary to the thrombosis in the splenic vein, which was secondary to the thrombosis in the portal vein. The acute course prevented the development of collaterals. Consecutive thrombosis of the mesenteric veins was the direct cause of death.

Removal of Calculus in the Lung. — Burger's case is remarkable in that the calculus made its way through the wall into a large bronchus, and then was removed with the bronchoscope. The patient was a woman of 43; at the first bronchoscopy the wall of the bronchus was seen bulging inward. Examined anew, the calculus was visible, and was extracted with forceps. Later inspection showed the bronchus wall healed. Lung calculi represent calcification of a scrap of necrotic lung tissue, as a rule. Mann published in 1914 ten cases in children and five in adults in which a tuberculous cheesy focus or gland-sequester in the lung had broken through into a bronchus and was coughed up or removed.

Alimentary Edema in Infant.—On account of a transient dysenteriform enteritis, an infant a year and a half old had been kept for two weeks on rice water with a very little milk. During the last few days of the two weeks it presented the clinical picture of acute nephritis with intense dropsy, but Willemse ascribed it to the undernourishment, and the prompt subsidence of the edema and other symptoms as soon as the child was fed properly confirmed this assumption.

March 4, 1922, **1**, No. 9

*Treatment of Detachment of the Retina. E. Marx.—p. 834.
Diphtheria: Diagnosis and Prophylaxis. Schaeffer.—p. 841.
*Coagulation of Blood in the Chest. M. A. van Herwerden.—p. 847.
Consumptives in the Hospitals. J. L. C. Wortman.—p. 849.
*Hendrick Van Roonhuyse, 1622-1672. E. D. Baumann.—p. 856.

Salt-Free Diet in Treatment of Detachment of the Retina. —Marx urges the necessity for trying every adjuvant means in treatment of detachment of the retina. He cites authorities to show that the ciliary body has a secreting function. When there is no intake of salt, the excess of fluid is cast off by the kidneys and the other secreting organs, among them the ciliary body. This forces more fluid into the vitreous body, increasing its bulk and weight, and thus tending to force the retina back into place. At the same time, the salt-free diet is hastening the casting off of the fluid back of the retina so there is no fluid to interfere with its attachment as it is restored to place. The intra-ocular pressure rises on a salt-poor diet. Hertel found that the pressure in the rabbit eye regularly subsided when a hypertonic saline was infused, and increased when a hypotonic saline was infused. The salt-poor diet thus acts on detachment of the retina from two points of vantage. Marx is now examining the tension of the eyes in patients with heart or kidney disease on a salt-poor diet. He has been applying the salt-free diet in the last eleven years, in ten retina cases. The detachment was not recent in any case, and three were cured; one was of traumatic origin, one spontaneous, and one after chorioiditis. The cure was slow and gradual in this group, and no other measures were applied. He does not include in the cured cases slight subjective or objective improvement. The tension improved in some without any change for the better in the visual acuity. With kidney disease and retention of sodium chlorid, inducing a tendency to edema in various tissues, conditions favor detachment of the retina, especially as at the same time the intra-ocular tension is reduced.

Coagulation of Extravasated Blood in the Chest. — Van Herwerden's statement that extravasated blood that has been in contact with the pleura does not coagulate, has already been mentioned in these columns. His further experimental research has shown that this occurs even when the heart and lungs are still. The fibrinogen seems to have been transformed to fibrin. But coagulation occurs on addition of an equal volume of oxalated blood from a horse; this demonstrates the presence of thrombin.

A Seventeenth Century Physician.—Baumann quotes freely from van Roonhuyse's works, some of which were translated into German and English. This year is the tercentennial of his birth. He described operations for hare-lip, hernia, atresia ani, etc., but he was known best for his obstetrical and gynecologic operations.

Svenska Läkaresällskapets Handlingar, Stockholm

March 31, 1922, **48**, No. 1

*Exophthalmic Goiter. A. Troell.—p. 1.
*The Bacteriophagum. H. Bergstrand.—p. 24.
Tumor of Lower Jaw. R. Roman.—p. 38.

Exophthalmic Goiter. — Troell tabulates the findings in sixty-two operative cases of exophthalmic goiter in regard to age, duration and intensity of the disease, the blood picture and blood pressure, the suspension stability, tolerance for carbohydrates, consumption of oxygen, and the reaction to epinephrin, pilocarpin or pituitary extract acting on the involuntary nervous system. In the acute cases the goiter was generally diffuse; in the cases with milder thyroid intoxication, the goiter was adenomatous, and these patients averaged ten years older than in the first group. The blood pressure was within normal range, as also the tolerance for carbohydrates, while in the diffuse group the blood pressure was high and tolerance for carbohydrates reduced. This classification seems more plausible than to distinguish a vagotonic and a sympatheticotonic group, as the reactions to epinephrin and pilocarpin were conflicting. Both these nervous systems seem to blend in the clinical picture of exophthalmic goiter. The graver cases from the operative point of view were in the diffuse goiter class, the blood pressure high, the age younger. His research confirms further that perverted functioning of the thyroid is a factor, as well as excessive functioning.

The d'Herelle Phenomenon.—Bergstrand gives some colored plates showing the Twort-d'Herelle phenomenon, and the new characteristics acquired by staphylococci after having resisted the action of the d'Herelle bacteriophagum. He says that this bacteriophagia has upset much of what was regarded as established in bacteriology, as to heredity and variation.